

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
1	Part 1	SECTION - IV. A BIDDING FORMS	NA	NA	Please provide editable electronic data for all BIDDING FORMs listed in SECTION - IV.	The bidder may create the editable form duly copying from the tender document published. The Authenticity and correctness of such documents will be bidders responsibility
2	Part 1	SECTION - IV. A BIDDING FORMS	4.4 Brief Description of Stages		Breakdown of the stage on Part 3 - PCC Table 1 and Part - 1 Bidding form. Please explain the correct breakdown of each stage. Part - 1 : Stage1、 2、 3A、 3B、 4A、 4B、 5、 6、 7A、 7B Part - 3 : Stage1、 2、 3、 4A、 4B、 5、 6、 7.	Stage 3 consists of 3A and 3B and stage 7 consists of 7A and 7B with common commissioning dates.
3	Part 1	Section - III. EVALUATION AND QUALIFICATION CRITERIA (EQC)	EQC 2.4.1	Experience under contracts in the role of prime contractor (single entity or JV member), subcontractor or management contractor (i) for at least the last SEVEN (7) years starting 1st July 2014.	Is it correct to understand that "(i) for at least the last SEVEN (7) years starting 1st July 2014." refers to the total performance period of multiple projects?	Refer Addendum
4	Part 2	Particular specification	1.5.2	All the requirements of The Metro Railway General Rules 2020 shall be implemented as a part of this contract.	Please provide Metro Railway General Rules 2020 that is applicable for this project.	GR 2020 is a document in public domain. In case the bidder is not able to locate, same will be provided on request.
5	Part 2	General specification	1.5.6	The order of preference with Particular specification having highest priority is: • The Particular Specification of the Contract and its appendices • The General Specification of the Contract and its appendices • International standards referred in contract. • Indian Railway Standards • Chennai Metro Rail Signal Engineering Manual • Other International standards.	Please provide Chennai Metro Rail Signal Engineering Manual that is applicable for this project.	Refer Addendum
6	Part 2	General specification	1.5.6	The order of preference with Particular specification having highest priority is: • The Particular Specification of the Contract and its appendices • The General Specification of the Contract and its appendices • International standards referred in contract. • Indian Railway Standards • Chennai Metro Rail Signal Engineering Manual • Other International standards.	Please clarify that the Indian Railway Signal Engineering Manual (PS 1.2), Chennai Metro Rail Signal Engineering Manual (PS 1.5.6) and Signal Engineering Manual of CMRL (PS 3.8.1) have the same requirement.	Refer Addendum
7	Part 2	Tender Drawing	NA	NA	Please provide track layout CAD data for expediting the tender preparation.	PDF documents are provided as a part of the bid document.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
8	Part 2	Tender Drawing	Drawing DDC-P2C5-ECV02-ALN-02104-01	NA	Is there any interoperability between Corridor - 2 and Corridor - 5?Though there will be crossover installed in Corridor - 5 of Phase 2, could you please confirm there is no interoperability between Corridor - 2 and Corridor - 5?	No Interoperability between Corridor 2 (Phase 1) and Corridor 5 (Phase 2)
9	Part 2	General specification	Drawing DDC-P2C5-ECV02-ALN-02104-01	NA	Please provide Madhavaram depot layout, as it is missing from the tender document.	Refer Addendum
10	Part 2	Particular Specification	4.11.2	The stopping position shall be same for all three types of rolling stocks. The centre of the first passenger door of all types of rolling stocks shall be taken as the common reference point for determining the stopping point, so that all three types of rolling stocks can match with PSD irrespective of the front overhang length of various rolling stocks.	3 different types of rolling stock will be supplied. Is the maintenance car an additional type of rolling stock? Please confirm.	3 different rolling stocks are used in Phase 2. All three rolling stocks will be operated in all three corridors. Apart from these three type of rolling stocks seperate maintenace vehicles also will be used (which are different from rollding stocks).
11	Part 2	Particular Specification	4.11.2	NA	Please make sure that the distance between the front end of the train and the on board antenna is same on all three types of rolling stocks in order to achieve the same stopping point.	The reference for stopping point is the centre of the train door with respect to the centre of the PSD door. The front end of the train is not the reference. To acheive the stopping accuracy with respect to the doors, the antenna of each type of RS shall be placed accordingly. The requirement may be taken up as a part of Interface requirement to RS contractor for space proofing the train
12	Part 2	Particular Specification	4.11.2	NA	In case of train reversing and 3 cars and 6 cars mix operation, a front car in a moving direction needs to be aligned. Please confirm.	If the reversal of the train happens on a passenger platform, the 3 car train stops at its designated stopping point and reverse. The stopping point of 3 car train in each platform will be informed in the detail design phase. If the reversal is happening in other reversal locations on the line, other than passenger platforms (eg: Shunting neck, mainline near a crossover etc,) the rear of the 3 car and 6 car shall align while stopping in the reversal track

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
13	Part 2	Particular Specification	4.11.3	Once awake, these trains shall retain the door opening authorization so that the train doors and PSDs can be opened after wake up in a scheduled manner or remotely from the OCC.	When static test is done at one side of the station platform, is it necessary that we perform opening/closing test of the train doors on the other side?	Static test shall include the testing of doors. The detail (eg: sequence of the tests, which side to be tested first etc) shall be defined in the Interface with Rolling stock
14	Part 2	Particular Specification	4.12.3	These stopping accuracy requirements shall be achieved with a 1% soap solution sprayed on the surface of the rails throughout the braking distance at maximum speed.	We understand that this test will be done by Rolling stock contractor. We understand that the result and report of this test will be issued by the rolling stock suppliers. Please confirm if our understanding is right?	For stopping accuracy demonstration, STC contractor shall create the test conditions including the 1% soap solution
15	Part 2	Particular Specification	4.12.3	This test shall be conducted and demonstrated by the S&TC contractor including creation of necessary testing conditions.	We understand that this test will be done by Rolling stock contractor. S&TC contractor will support this test. We understand that the result and report of this test will be issued by the rolling stock suppliers. Please confirm if our understanding is right?	For stopping accuracy demonstration, STC contractor shall create the test conditions including the 1% soap solution
16	Part 2	Particular Specification	4.12.4	The stopping in the window after jog activation will not qualify as a successful event for the calculation of stopping accuracy percentage requirement as per 4.12.1	The precondition here is that the acceleration / deceleration performance of the vehicle is guaranteed by the rolling stock suppliers in accordance with the Employer's requirement. Please confirm if our understanding is right?	The performance parameters for the rolling stocks shall be agreed upon mutually in the Interface forum. The various provisions mentioned in the interface document will be binding on the respective Contractors.
17	Part 2	Particular Specification	4.15.1	The Signalling and Train Control System shall provide full protection of ATP in ATP/ATO/UTO mode of the train running.	Driverless Train Operation (DTO) is also included in this requirement. Please confirm the same.	Confirmed. Refer Addendum
18	Part 2	Particular Specification	4.16.4	An alarm indication shall be provided within the Train operator cab/ console and OCC/BOCC/SCR to indicate degraded mode of operation.	Alarm indication will function regardless of mode of operation in accordance with PS 5.3.1. For example, from UTO to DTO, from DTO to ATO. Please confirm.	The details of the alarm shall be decided in the detail design phase
19	Blank					
20	Part 2	Particular Specification	5.4.4	Any delocalization of train, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a manual intervention requirement at the train.	Please clarify if 15 kmph is operated by Maximum Safe Speed (MMS) or Emergency Brake (EB).	The train shall be Operated in Maximum safe speed of 15 kmph. If any TSR less than 15 is applied in the track section authorised for crawling movement, the train shall operate in the TSR speed.
21	Part 2	PS- Appendix 2P-1	2.3.4	Train shall be operated completely unmanned in GoA 4. This UTO mode shall be available everywhere on the mainlines and the depots of all three corridors of CMRL phase2 except for inside the workshop lines of depots.	Please confirm if Interoperability between Corridor - 3, Corridor - 4, and Corridor - 5 is required.	Interoperability is a requirement

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
22	Part 2	PS- Appendix 2P-1	2.3.4 b)	Complete information of trains shall be transmitted to OCC/BCC/DCC to enable the OCC to determine the status of the equipment, sub-systems, and systems of the Trains and to issue the required control commands to the Trains via Signalling & train Control system and via RTR-DMS system of RSC work- station to monitor,	Please specify which information will be transmitted to OCC.	The information for meeting the requireemnt as per the clause shall be identified and implemented jointly by RS contractors and STC contractor
23	Part 2	PS- Appendix 2P-1	2.3.4 h)	Also, the wash plant shall be placed on a ramp gradient or on level tangent track.	We understand that the precondition of the wash mode is that the CBTC radio network will not be obstructed by the washing machine itself. Please confirm.	STC contractor shall accommodate the washplant while designing the radio network for CBTC. Necessary input shall be obtained through Interface forum
24	Part 2	PS- Appendix 2P-1	2.3.4 k)	The UTO mode shall include Automatic Turn back of train at any locations which includes, mid section between stations, the terminal stations, the intermediate turn back locations etc. The Automatic turn back facility will be without train operator or attender.	The location of turn back shall be determined before the start of project.	unscheduled Reversal shall take place at any location on the track with manual intervention (5.15.2). Scheduled reversals which shall be totally automatic as explained in 5.15.1 of Particular specification, and will be finalised in detail desgn phase.
25	Part 2	PS- Appendix 2P-1	2.3.6 j)	The ATO mode shall include Automatic Turn back of train at any locations which includes, mid section between stations, the terminal stations, the intermediate turn back locations etc. The Automatic turn back facility will be without train operator or attender.	The location of turn back shall be determined before the start of project.	unscheduled Reversal shall take place at any location on the track with manual intervention (5.15.2). Scheduled reversals which shall be totally automatic as explained in 5.15.1 of Particular specification, and will be finalised in detail desgn phase.
26	Part 2	PS- Appendix 2P-1	2.3.6 m)	m) UTO shall be capable of operating train with wet speed profile being selected from OCC through ATS to minimize the wheel slip/slide occurrence.	From the context, we think that the word "UTO" is supposed to be "ATO".	The train borne hardware and software which supports the ATO/DTO/UTO Operation shall be capable of operating train with wet speed profile as in the clause.
27	Part 2	PS- Appendix 2P-1	2.3.7 a)	Identification and enforcement of maximum speed at which the train may operate, shall be in accordance with the maximum design safe speed of 90 kmph.	Please confirm if the maximum design speed for each section will be provided by the Track contractor before the detailed design phase.	The maximum design speed shall be obtained from the track contractors of each section at the time of design as well as post consutruction as as-built data for incorporating in Signalling design.
28	Part 2	PS- Appendix 2P-1	2.3.7 a)	Identification and enforcement of maximum speed at which the train may operate, shall be in accordance with the maximum design safe speed of 91 kmph.	Please give us the definition of "Maximum Design Safe Speed" & the difference in meaning between "Maximum Design Safe Speed" and "Maximum Safety Speed".	This clause is in the STC-RS interface document. In the context of this clause the maximum design safe speed is that of the rolling stock design. It may also be noted that this speed may be changed by Rolling stock on a real time manner due to any failure as in clause 2.4.26 of the same Interface, which needs to be implemented by STC system..

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
29	Part 2	PS- Appendix 2P-1	2.3.7 b)	Identification and display of actual speed, target speed, target distance, and the operating speed.	Please make sure that the "identification and display of actual speed, target speed, target distance, and the operating speed" will be displayed on DMI.	These indications shall be dispalyed by the STC contractor on the DMI supplied by the STC contractor in the Operator desk.
30	Blank					
31	Part 2	PS- Appendix 2P-1	2.3.8 b)	The ATP shall give cab signal indications as soon as the train reaches a track position where normal running can be resumed.	Please confirm if the transition to ROS mode is limited to when the train is stopped.	RM mode/ ROS mode shall be selectable using a push button in the train Operator desk at standstill condition of the train.
32	Part 2	PS- Appendix 2P-1	2.3.8 b)	The ATP shall give cab signal indications as soon as the train reaches a track position where normal running can be resumed.	Recovery from ROS mode to ATP mode is possible given that the wayside equipment detects all the trains on the track. This requirement is applied only for the train detected by CBTC system. Please confirm.	The transition from ROS mode to higher mode ATP/DTO/ATO shall be based on the condtions met by that particular train to operate safely in these modes by the CBTC system.
33	Part 2	PS- Appendix 2P-1	2.3.8 c)	In Restricted Manual Mode the train operator shall be able to control Train's doors when the Train is stopped within the station stopping limits.	Train door will not automatically open under RM mode. Please confirm.	The Door authorisation in RM mode is using the "Permissive door button" operator by the train operator as per clause 5.14.1 of the PS. Once the authorization is made available using the button, the doors can be opened and closed by the train Operator.
34	Part 2	PS- Appendix 2P-1	2.3.8 d)	The maximum permissible speed of the train shall not exceed 10kmph in reverse mode for a predefined distance.	Please confirm that the Maximum Safety Speed is limited to less than 10kmph. Please confirm.	Tender condition prevails
35	Part 2	PS- Appendix 2P-1	2.3.9 a)	By-pass Mode shall be provided for use in the event of failure of the ATP system.	ATP system means Onboard ATP. Please confirm.	Confirmed
36	Part 2	PS- Appendix 2P-1	2.3.11 a)	The PTI shall be able to be entered by the OCC operator or by Train driver in manual modes, through the HMI in train.	Please elaborate the operational purpose of PTI.	PTI (Positive Train Identification) identifies the train for all operational purposes.
37	Part 2	PS- Appendix 2P-1	2.3.11 a) v.	Passenger destination	Please explain what is meant by Passenger destination?	The destination of the passenger trip.
38	Part 2	PS- Appendix 2P-1	2.3.11 a) vi.	Service number	Please explain what is meant by Service number?	The sequence at which the train inducted to passenger service
39	Part 2	PS- Appendix 2P-1	2.4.7	The system will broadly cater to Train Radio (TETRA), CBTC Radio and CCTV Radio.	We think that the Train Radio (TETRA) is supposed to be the scope of other package. Kindly confirm.	TETRA radio is not in the scope of this package. CBTC radio and non-CBTC radio (CCTV radio) is part of the scope of this package.
40	Part 2	PS- Appendix 2P-1	2.4.7	The radio system (TETRA) for Train Radio traffic shall be provided by the TETRA Contractor primarily for voice communication and for limited system alarms and controls.	We think that the Train Radio (TETRA) is supposed to be the scope of other package. Kindly confirm.	TETRA radio is not in the scope of this package. CBTC radio and non-CBTC radio (CCTV radio) is part of the scope of this package.
41	Part 2	PS- Appendix 2P-1	2.4.11 a) x.	Suitable coupling for connection to the ATC system, if applicable.	Please explain the definition and purpose of the suitable coupling.	Suitable coupling means suitable connectors appropriate for the function as per the relavant standards

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
42	Part 2	PS- Appendix 2P-1	2.4.29	The high critical alarms, shall be transmitted to ATS through the CBTC channel itself.	All the other alarms not mentioned in the list of high critical will be transmitted to ATS through the channels apart from CBTC Channel. Please confirm the same.	Tender condition prevails
43	Part 3	General conditions	GCC 1.1.2.10	N/A	GCC 1.1.2.10 is not mentioned in the tender document. Please clarify if it is intentional.	Omission is intentional
44	Part 3	General conditions	GCC 1.8	The Employer's Personnel shall have the right of access to all these documents at all reasonable times.	Please confirm that the employer's personnels` right to access the documents is limited to this project and with the consent of the contractor.	Tender Condition Prevails
45	Part 3	General conditions	GCC 1.10	The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.	Please confirm that the employer`s personnels` right to use the documents is limited to this project and with the consent of the contractor.	Tender Condition Prevails
46	Part 3	Particular conditions	N/A	N/A	We understand that the "Completion Certificate" mentioned in Part 3 of PCC Table 1 is the same as the "Taking over Certificate". Kindly confirm if our understanding is right.	Confirmed.
47	Part 3	Particular conditions	N/A	N/A	Please confirm that the priority level of "response to the clarification document" will be the same as "(c) Addendum and Corrigendum to Tender" in accordance with Clause No.1.5 on GCC.	Refer Addendum
48	Part 1	Notice Inviting Tender	N/A	11. Last Date and Time of submission /uploading of Bid 11 Oct 2021 up to 13:00 hrs	Going through the tender document upon the tender open, a significant number of technical difficulties were identified. The forefront technologies (particularly IoT, Cyber Security, etc.) were adopted that most bidders seem to face huge difficulties in complying with. In order to give fair opportunities to all bidders, please permit Alternative Bids in accordance with ITB 13.1.	Alternate Bids are not permitted
49	Part 1	ITB	N/A	N/A	In relation to SI No.1, considering the time consuming to build-up respective technical countermeasures towards technical difficulties, may we request extension of bid submission for at least three months. Please confirm this extension.	Refer Corrigendum 1&2

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
50	Part 1	EQC	2.4.2 (b)	N/A	<p>Please add the following sentences to “Note for the Bidders” at the last paragraph;</p> <p>(vii) Not withholding anything contained in the Evaluation and Qualification Criteria, the lead member alone is required to fulfil all qualification criteria, in case of JV/Consortium between any public listed company and its fully owned Indian subsidiaries as members.</p>	Refer Addendum
51	Part 1	ITB	ITB 7.1	The Employer will respond in writing to any request for clarification, provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Bids.	<p>The clarification submission deadline as per the bidding documents is 14 days before the bid submission deadline (Refer to ITB 7.1). But the CMRL homepage (Tender Details information on E-Procurement Portal of CPP) says that the clarification submission deadline is 8th of September 2021 as below.</p> <p>Which information should we consider to be valid?</p>	The dates in the Bid condition prevails.
52	Part 2	Bid drawing	N/A	N/A	<p>Please provide the following diagrams and CAD data for reducing unnecessary cabling cost.</p> <p>1.At Depot, cabling route between:</p> <p>a.Signalling Equipment Room (SER) to the site with distance information.</p> <p>b.UPS room to SER with distance information.</p> <p>c.SER to Depot Control Room (DCR) with distance information.</p> <p>2.At each station, cabling route between:</p> <p>a.SER to the platform with distance information.</p> <p>b.UPS room to SER with distance information.</p> <p>c.SER to Station Control Room (SCR) with distance information.</p> <p>3.At OCC/BCC, cabling route between:</p> <p>a.SER to control center with distance information.</p> <p>b.UPS room to SER with distance information.</p>	The tender drawings shall be referred for reasonable assumptions based on past project experiences. The detailed drawing and equipment room locations, cable routing etc shall be finalised in design phase and in Interface forums
53	Part 3	Particular conditions	Table 1	N/A	Please indicate “revenue operation dates” at each stage as they are not shown on this table 1.	Key dates relevant for the contractor is available in Table 1. The Revenue operation date depends on various external factors including CMRS authorization.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
54	Part 2	PS- Appendix 2P-1	2.3.4 i)	When the dwell time has elapsed, the Trains doors shall be closed automatically with PA and chimes prior to the door close operation.	We understand that this function is not a scope of Signalling System's contractor. Please confirm.	In ATP and ATO mode, necessary indication shall be provided in the driver DMI before a predefined time before the elapsing of dwell time for closure of doors. In DTO and UTO mode, the closure of doors before a predefined time before the elapsing of dwell time is in scope of Signalling system. The chime and physical closing of door is in the scope of RS contractor.
55	Part 2	PS- Appendix 2P-1	2.3.4 p)	During Un-attended Train Operation modes, all the audio visual alarms of RS, STC, TETRA equipment inside the Emergency Operator's desk shall be kept in mute.	We understand that this function is not a scope of Signalling System's contractor. Please confirm.	Muting the audio visual alarms of the signaling equipments in UTO and DTO mode once the operator desk is closed is the responsibility of signaling contractor.
56	Part 2	PS- Appendix 2P-1	2.3.9 a)	In this mode, the train speed shall be controlled entirely by the train operator, to a limit speed as 25 kmph inside the Depot as “Low speed Cut- Out” and 40 kmph in Mainline as “High Speed Cut-Out”.	In Cut-out mode, the train is separated from ATP function. The related train is not controlled by Signalling system. Please confirm.	Speed monitoring in cutout mode is responsibility of RS contractor. Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
57	Part 2	PS- Appendix 2P-1	2.3.9 b)	The ATP Cut-out (By-pass) Mode shall be initiated by the train operator operating a sealed Safety Cut-out Switch (SCS) and simultaneously breaking its seal.	We understand that this function is not a scope of Signalling System's contractor. Please confirm.	Scope of RS contractor. Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
58	Part 2	PS- Appendix 2P-1	2.3.11 g)	In By-pass/ Cut-out Mode or any other mode, external indication light shall flash or occult which will be finalized during design stage.	We understand that this function is not a scope of Signalling System's contractor. Please confirm.	The indication light is in RS scope. The trigger for the light (excluding in cutout mode) is the scope of the STC contractor. It may also be noted that the external indications shall be required for other operational needs also, eg: Train to be kept immobilised through a command from ATS to enable a roving attendant to walk towards the train. STC contractor needs to identify the scenarios and incorporate in the Interface design.
59	Part 2	PS- Appendix 2P-1	2.4.15	The screened cables used for the train-borne signaling equipment shall be properly terminated so that no return loops are formed to cause an electrically noisy environment within the train-borne signaling equipment cubicle wiring.	We understand that this work is not a scope of Signalling System's contractor. Please confirm.	The wiring and earthing arrangements of all signaling related cables and cabinets supplied by both the contractors, shall be mutually agreed between the contractors keeping in view this requirement

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
60	Part 3	Particular conditions	Contract data 1.1.1.3 and Table 1	Time for Completion : 1640 days	<p>There are discrepancies between Time for Completion and the dates defined on Key Dates on Table 1: Summary of Key dates.</p> <p>For example, Stage 7 Revenue Service is expected to complete by “SIG-S7-Kd-013”, which is 2248 days from “Calendar days from Commencement date”. This 2248 days exceeds “Time for Completion”.</p> <p>Please explain these discrepancies.</p>	Refer Addendum, (Revised Access Dates and Key dates.)
61	Part 3	General conditions	1.8	The Employer's Personnel shall have the right of access to all these documents at all reasonable times.	<p>Please kindly confirm that the following sentences shall be added at the end of this sentence.</p> <p>“However, Contractor shall have the right to require any conditions for the access and the right to refuse the access for reasonable causes; for example, confidential information. In addition, Employer shall make sure that the documents' access is strictly managed and shall be responsible for maintaining the confidentiality of such documents.”</p>	Bid condition prevails
62	Part 3	General conditions	1.10	This license shall: (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works, (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.	Please confirm that the rights to usage of Contractor’s Documents is limited to this project only.	Bid condition prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition			Bidder's query	CMRL Response							
63	Part 3	Particular conditions	2.1	<table><tr><th>Period of delay in handing over</th><th>Extension of Time</th><th>Cost compensation for the delay period</th></tr><tr><td>1 to 30 days</td><td>YES</td><td>NO</td></tr><tr><td>Above 30 days</td><td>YES</td><td>YES • As per Daily rate of wages for idle labour / employees/ Supervisors / Engineers directly working on the projects on full time basis, at actuals. • Additional material storage cost, if any. • Hardware warranty extension cost for deferment of DNP obligations, at actuals. • 15% above all these items to cover overhead costs (including Contractor's office maintenance cost)</td></tr></table>	Period of delay in handing over	Extension of Time	Cost compensation for the delay period	1 to 30 days	YES	NO	Above 30 days	YES	YES • As per Daily rate of wages for idle labour / employees/ Supervisors / Engineers directly working on the projects on full time basis, at actuals. • Additional material storage cost, if any. • Hardware warranty extension cost for deferment of DNP obligations, at actuals. • 15% above all these items to cover overhead costs (including Contractor's office maintenance cost)	Please make the Contractor’s claim to additional payment applicable under this clause as per General Conditions.	Bid condition Prevails
Period of delay in handing over	Extension of Time	Cost compensation for the delay period													
1 to 30 days	YES	NO													
Above 30 days	YES	YES • As per Daily rate of wages for idle labour / employees/ Supervisors / Engineers directly working on the projects on full time basis, at actuals. • Additional material storage cost, if any. • Hardware warranty extension cost for deferment of DNP obligations, at actuals. • 15% above all these items to cover overhead costs (including Contractor's office maintenance cost)													
64	Part 3	General conditions	Table 1	If errors, omissions, ambiguities, inconsistencies, inadequacies, or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.			We understand that the Contractor will bear the cost of correction only if the Contractor was responsible for the error and only if the work lies within the scope of this Contract Package. For any errors that occur, as a result of following the engineer or employer’s instruction / documents, the Contractor shall claim the additional cost incurred to make the required corrections. Kindly confirm the same.	Bid condition prevails							

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
65	Part 3	General conditions/ Particular conditions	8.1	<p>Except otherwise specified in the Particular Conditions , the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Engineer's instruction recording the agreement of both Parties on such fulfilment and instructing to commence the Works is received by the Contractor: (a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities in the Country; (b) delivery to the Contractor of reasonable evidence of the Employer's Financial arrangements (under Sub-Clause 2.4 [Employer's Financial Arrangements]) (c) (c) except if otherwise specified in the Contract Data, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works; and (d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.</p> <p>The date of commencement shall be 30 days from the date of issue of LoA.</p> <p>The date of e-mail communication shall be considered as the date of issue of LoA. Thereafter the Contractor shall proceed with due diligence, without delay, and in accordance with the program.</p>	<p>Please clarify which will be the priority to mark the commencement date of the project - is it 30 days upon receiving the LOA or after all the 4 points a) to d) mentioned here are satisfied.</p> <p>In other words, does it mean that the points a) to d) will be completed within 30 days after receipt of LOA.</p>	<p>As per SP 1.5, Particular Conditions of Contract (PCC) holds higher priority than the General Conditions of Contract (GCC).</p> <p>Points (a) to (d) shall be completed within 30 days from LOA and the date of Contract commencement shall be 30 days from the date of issue of LOA.</p> <p>Tender Condition Prevails.</p>
66	Part 3	Particular conditions	8.4.1	<p>Whether or not the Contractor fails to achieve any Key Date by reason of any delay shall not by itself be material to the Contractor's entitlement to an extension of time. Any extension to a Key Date shall not by itself entitle the Contractor to an extension to any other Key Date and the Time for Completion.</p>	<p>Please confirm that this clause is not applicable when the reason for delay is not attributable to the Contractor.</p>	<p>Bid condition prevails.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response															
67	Part 3	Particular conditions	37	<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 as considered proper by the Engineer</td></tr><tr><td>2</td><td>Above 30 days</td><td>YES</td><td><ul style="list-style-type: none">• As per Daily rate of wages for idle labour / employees/ Supervisors / Engineers directly working on the projects on full time basis, at actuals.• Additional material storage cost, if any.• Hardware warranty extension cost for deferment of DNP obligations, at actuals.• 15% above all these items to cover overhead costs (including Contractor's office maintenance cost)</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 as considered proper by the Engineer	2	Above 30 days	YES	<ul style="list-style-type: none">• As per Daily rate of wages for idle labour / employees/ Supervisors / Engineers directly working on the projects on full time basis, at actuals.• Additional material storage cost, if any.• Hardware warranty extension cost for deferment of DNP obligations, at actuals.• 15% above all these items to cover overhead costs (including Contractor's office maintenance cost)	Compensation as assessed by the Engineer on submission of documentary proof by the Contractor to Engineer's satisfaction	Please allow us to charge additional cost for every day of delay beyond the designated date even if the extent of delay is within 30 days from the designated date.	Bid condition prevails.
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 as considered proper by the Engineer																	
2	Above 30 days	YES	<ul style="list-style-type: none">• As per Daily rate of wages for idle labour / employees/ Supervisors / Engineers directly working on the projects on full time basis, at actuals.• Additional material storage cost, if any.• Hardware warranty extension cost for deferment of DNP obligations, at actuals.• 15% above all these items to cover overhead costs (including Contractor's office maintenance cost)	Compensation as assessed by the Engineer on submission of documentary proof by the Contractor to Engineer's satisfaction																	
68	Part 3	Particular conditions	39	<p>If the Contractor suffers delay by a cause for which the Employer is responsible in carrying out the Tests on Completion, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion]</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.</p> <p>However, the Contractor shall be solely responsible for his scope covered in Interface tests.”</p> <p>In the event of disputes between the interfacing contractors, the E</p>	Please make the Contractor’s claim to additional payment applicable under this clause as per the General Conditions.	Bid Condition Prevails															

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
69	Part 3	Particular conditions	40	<p>If the works or sections not available for usage by the Employer for more than 1 hour, then the penalty of INR 1,00,000 shall be paid by the contractor for each hour till the works or sections made ready by him. The cumulative amount shall be deducted by the Employer from the subsequent bills submitted by contractor.</p> <p>A penalty of INR 50,000 for each train shall be levied for the failure or malfunction in the works or sections during passenger operation which results in delay of more than 10 minutes.</p>	We kindly request you to remove the penalty clause for hourly delay. Kindly reconsider this condition.	Bid condition prevails.
70	Part 3	Particular conditions	41	<p>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. If defects occur on a component/sub-system due to defective material/ design/workmanship, the Defect Notification period for that item should be reckoned from the time the defects mentioned above, is rectified.</p> <p>The Employer shall also be entitled for an Extension of the Defects Notification Period for the Works or a Section if 'Failure to Pass test after completion' for that particular section due to contractor's default.</p>	We request you to kindly retain the original clause 11.3 under General Conditions.	Bid condition prevails.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
71	Part 3	Particular conditions	44	<p>If the Contractor incurs Cost as a result of any unreasonable delay by the Employer to the Tests after Completion, the Contractor shall (i) give 28 days' notice to the Engineer and (ii) be entitled subject to Sub-Clause 20.1 Contractor's claims] to payment of any such, Cost of manpower and equipment directly connected to the above test subject to substantiation of such cost with profit, if delayed beyond the 28 days' notice period.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this Cost.</p>	Kindly allow us to claim the labour cost that will be incurred for the number of days delayed, even if the delay is within the extent of 28 days.	Bid condition prevails.
72	Part 3	General conditions	13.3	The Contractor shall not delay any work whilst awaiting a response	We understand that we do not have any obligations to carry on with the work proposed in Variation Order until receiving an approval from the Engineer. Please confirm.	Bid Condition Prevails.
73	Part 3	Particular conditions	51	No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 41 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any."	Kindly restore the condition to 28 days as mentioned in the General Conditions.	Bid condition prevails.
74	Part 3	Particular conditions	55	Deleted	We request you to kindly retain this clause 19.6. Kindly withdraw its deletion.	Bid condition prevails.
75	Part 2	Particular Specification	5.8.2.2	If the full-service brake fails or is not adequate to stop the Train at the target point, the Train borne equipment must apply the emergency brake.	We understand that the on-board device applies the emergency brake upon receiving the information of "full-service brake failure" from the vehicle. Please confirm if our understanding is right.	The signalling system shall monitor the speed of the train and infer the inadequacy of service brake to stop the train within the target, and apply EB. No separate brake failure signal will be provided for this scenario.
76	Part 2	Particular Specification	5.8.3.2	Advisory Indication:	"Advisory indications" shall be displayed when the train is approaching at a certain distance to the station. This distance shall be decided at the design stage. Please confirm if our understanding is right.	The signalling contractor can design the system suitably to meet the requirement.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
77	Part 2	Particular Specification	5.8.3.2	The ATC gives few seconds to the train operator to react after warning.	「few second」 → We will design ATC to give 2 seconds to the train operator to react after warning. Please confirm if this is acceptable.	The time value shall be finalized in the detail design phase.
78	Part 2	Particular Specification	5.8.5.2	The Signalling and Train Control System shall ensure that under Normal Circumstances the Train does not apply brake / traction through neutral zones (Air gap) when in ATO /DTO/ UTO Mode.	There may be instances where Emergency brake will be applied. Please confirm if this is acceptable.	Scenenarios in which EB in the neutral section can occur can be listed and finalised in Detail design phase. Adequate design features shall be taken up to minimize the requirement of EB in Neutral section
79	Part 2	Particular Specification	5.8.5.4	Locations of neutral zones shall be supplied by traction power Contractor. The overall design of the neutral section in the signalling software shall be based on the traction contractors input and shall also consider the locations of the neutral section magnets installed on track by RS contractor.	If Neutral Zone is implemented in the following section, train operation will be affected. 1) section where the train stops. (eg. Station) 2)) section where the train cannot be accelerated. (eg. steep slope) Please discuss with Signalling contractor also before deciding Neutral Zone position	Refer 4.1.4 of Appendix 2P-6 of Part 2 for detailed interface. The operational aspects can be flagged by STC contractor ensuring through simulation of their design.
80	Part 2	Particular Specification	5.8.8.1	d) Automated Individual door inhibition facility to match with faulty doors of PSD or Rolling stock.	Please confirm that this clause will be implemented based on the assumption that PSD and RS Door will transmit the correct information.	This functionality is not a SIL 4 functionality. This interface is to avoid inconvenience to the passenger. It is assumed that PSD and RS provides correct door information Generally this functionality is implemented through data communication by ATS to the MMS system of PSD and TCMS of RS.
81	Part 2	Particular Specification	5.8.8.1	e) Individual door inhibition facility remotely from OCC/SCR through ATS workstation.	The responsibility that arises when operating through the ATS workstation rests with the operator. Please acknowledge the same.	Operational safety is the responsibility of the Operator. ATS shall process this functionality in SIL 2 level, as a minimum.
82	Part 2	Particular Specification	5.8.8.1	g) Door obstruction synchronization etc.	When an obstacle is detected, the PSD and the vehicle door will independently perform the opening / closing of the respective doors. As a result of this independent action, it may not be possible to satisfy the synchronization of vehicle door & PSD's opening and closing. Is it possible to control the opening and closing of the vehicle door and PSD individually?	Please refer addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
83	Part 2	Particular Specification	5.8.13.10	Turn back at any location (including mid-section) shall also be possible.	Turn back is possible only during Emergency mode and when the train is present in the main line. Please acknowledge the same.	This will be an unscheduled turnback as per 5.15.2 of PS. This will be used in Operational emergency situations by the Operator. signaling system design shall be capable of providing this reversal.
84	Part 2	Particular Specification	5.9.5	Normally for Cases of complete power failure etc. a safe method shall be provided for restoration of the imposed temporary speed restriction preferably through ATS system.	Restoration from the temporary speed restriction setting is guaranteed by the CBTC ground equipment. Please confirm the same.	Refer Addendum
85	Part 2	Particular Specification	5.9.6	Loss of power supply should not release the imposed temporary speed restriction.	The temporary speed restriction shall be applied for 24 hours after the power of the device is turned off. Please acknowledge the same.	Agreed
86	Part 2	Particular Specification	5.11.1	Passenger evacuation path begins from the Rolling stock end door to the Track access doors of PSD through the track.	This is not the scope of Signalling contractor. Kindly confirm the same.	This is an introductory clause. Scope of signalling contractor is defined in subsequent clauses.
87	Part 2	Particular Specification	5.12.7	The movement of a train in sweeping zone shall automatically display the front and exterior cameras of the train in OCC/SCR/BOCC in VMS system.	This is not the scope of Signalling contractor. Kindly confirm the same.	The VMS system and Signalling system are in the scope of STC contractor. The trigger for VMS system for auto popping of video strems is in the scope of signalling system
88	Part 2	Particular Specification	5.13.2.1	• The Train is stopped within the performance limits; and • Train speed is lower than 1 Kmph.	Does "the performance limits" mean "the range of stopping accuracy = within \pm 300mm"?	The stopping accuracy is the performance limit.
89	Part 2	Particular Specification	5.13.2.4	Facility shall be provided to open the Staff Access Passenger Door (first and last door of the train on both sides) individually from OCC as a separate command to open once conditions for train in docked condition is met.	This is not the scope of Signalling contractor. Kindly confirm the same.	The facility shall be provided in the ATS system for the Operator from OCC/SCR/BOCC to open and close the Staff Access Passenger Doors individually on the platform side. For the commands to reach RS and PSD system and its actuation, the same shall be implemented by STC contractor with the Interfacing contractor as a part of the Interface process.
90	Part 2	Particular Specification	5.13.2.5	In ATO & UTO mode the Train shall be prevented from departing unless all train/PSD doors are closed.	Even during "ATP / DTO", is there a requirement to prevent the train from departing, if the train`s door or PSD is not closed?	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
91	Part 2	Particular Specification	5.14.1.1	Facilities for emergency opening of Train Passenger doors from Train Operator Panel shall exist anywhere on the line, provided.	Does "on the line" mean anywhere on the track circuit?	Any where on the track, on mainline, sidings or depot. Refer clause 5.14 of PS for more information
92	Part 2	Particular Specification	5.14.2.2	The ATS shall obtain the precise chainage of the train from the ATP, shall compare/map the position of the train with respect to the location of the PSD and inhibit the train doors which are outside the PSD openable area (from opening PSD mechanically from the train	Please define the range of "the PSD openable area"?	Openable area means the portion of the PSD façade which can be accessed & opened (either a sliding door or a emergency swing door) , through the uninhibited train doors in this scenario
93	Part 2	Particular Specification	5.15.2.1	A train can be reversed on any location on the line in between two stations in UTO/ATO/DTO/ATP mode.	We understand that this is a function to be used in an emergency. Is our understanding right?	This reversal will be an unscheduled one to mitigate any unanticipated event
94	Part 2	Particular Specification	5.15.2.2	The reversal shall warrant only a minimum stoppage time for the train in between the stations.	Please explain in detail the following, "minimum stoppage time for the train".	The stoppage time shall be as less as possible. The details to be decided as a part of detail design. Refer the addendum for more details on retrival of the train in a fire incident perspective
95	Part 2	Particular Specification	5.16.1	a) The smoke alarm status of the train	In case of a smoke alarm ringing, we will keep the doors of the train open in order to prevent the departure of the train. Is this understanding right?	All conditions in Clause 5.16 shall be fulfilled. The smoke alarm trigger shall be linked to the departure order and not to the status of the doors.
96	Part 2	Particular Specification	5.20.24.13.4	The non-passenger trains shall have automatic preconfigured methods to reduce the auxiliary energy controlled by ATR/ATS like controlling the HVAC, Saloon announcement system, Saloon lighting system etc. This configuration shall be capable of being amended by operator based on the special needs.	This is not the scope of Signalling Contractor.	ATS shall identify the non-passenger trains and seek confirmation from the Operator for assigning the train in a "power saver non-passenger" cateogry. STC contractor shall Interface with RS contractor to provide this input.
97	Part 2	Particular Specification	5.4.4	Any delocalization of train, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a manual intervention requirement at the train.	We will be able to perform a speed check of 15 kmph through the on -board device. Please confirm if this solution is acceptable?	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
98	Part 2	Particular Specification	5.4.4	Any delocalization of train, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a manual intervention requirement at the train.	The on-board equipment shall only check the speed of 15 kmph because the control from the ground equipment is not possible when the signal communication is interrupted. We request that other controls shall be performed at the operator's responsibility via TETRA, and the operation shall be controlled outside the responsibility of the signalling equipment.	Refer Addendum
99	Part 2	Particular Specification	5.8.1.1	The Signalling and Train Control System shall ensure safe movement of all Trains under all operating conditions by continuously generating a safe operating envelope defined by the LOMA and the Maximum Safe Speed	Please acknowledge the following. CBTC shall guarantee safety for train movements only with CBTC equipment and all function is working correctly.	This is a standard safety requirement of any ATP system. The CBTC system under the scope of this contract also needs to fulfill this requirement in UTO/DTO/ATO/ATP modes of working. In RM mode, the safety features described in the contract needs to be fulfilled. This is apart from the Interlocking safety for all vehicles in any mode.
100	Part 2	PS- Appendix 2P-1	2.3.4 h)	Also, the wash plant shall be placed on a ramp gradient or on level tangent track.	Please request to Rolling Stock Supplier for achieving low speed operation for wash purpose.	The interface requirements shall be taken up in the interface with RS contractors.
101	Part 2	PS- Appendix 2P-1	2.3.4 n)	RS contractor may provide necessary inputs to the STC contractor for the design of the wet profiles.	Please make sure that the RS contractor provides the "Wet Profile" to signaling contractor. Signaling contractor cannot design braking pattern without it.	<p>The design of wet profile is signalling responsibility. All necessary inputs on train performance in wet conditions shall be obtained in the interface forum for signalling contractor to prepare the wet profile.</p> <p>All indications for the OCC operator to identify slip/slide shall be provided in ATS work station. The wet/dry profile shall be selectable by Operator in ATS terminal.</p>
102	Part 2	PS- Appendix 2P-1	2.3.6 m)	UTO shall be capable of operating train with wet speed profile being selected from OCC through ATS to minimise the wheel slip/slide occurrence. RS contractor may provide necessary inputs to the STC contractor for the design of the wet profiles.	Please make sure that the RS contractor provides the "Wet Profile" to signaling contractor. Signaling contractor cannot design braking pattern without it.	<p>The design of wet profile is signalling responsibility. All necessary inputs on train performance in wet conditions shall be obtained in the interface forum for signalling contractor to prepare the wet profile.</p> <p>All indications for the OCC operator to identify slip/slide shall be provided in ATS work station. The wet/dry profile shall be selectable by Operator in ATS terminal.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
103	Part 2	PS- Appendix 2P-1	2.4.18	For compatibility, Rolling Stock and the train detection system (CBTC antennae/track circuits/axle counters), shall conform to EN 50238.	EN50238 is only applied to Track Circuit/Axle Counters. (EN50238 is not applied to Radio based signalling system)	Refer Addendum
104	Part 2	Particular Specification	5.8.12.1	The maximum number of trains that can be processed by a single wayside controller shall be between 10 to 40. This shall be ensured with signalled headway of 90 sec and shall consider all train bunching scenarios of the trains in case of any failure.	Headway of 90sec cannot be realized by ONLY Signalling system. Other contrators shall consider this requirement. Please confirm if our understanding is correct.	Tender conditions prevails
105	Part 2	Particular Specification	5.23.9.8	CBTC radio shall preferably use 5.8 GHZ.	We use 2.4GHZ.	5.8 GHZ for CBTC is only a preference, not a mandatory clause. However both the radio system shall not use the same frequency band. One shall be 2.4 GHZ and the other 5.8 GHZ. Kindly refer Addendum for modification in this clause
106	Part 2	Particular Specification	6.7.3	f) IP 52 for enclosures to be installed in equipment rooms.	Our ATP wayside equipment in equipment room is IP20. Please confirm is this is acceptable?	Refer Addendum
107	Part 2	Particular Specification	6.7.3	e) IP 54 for internal train borne equipment.	Our ATP internal train borne equipment is IP20. We have delivered systems based on IP 20 in past projects and we have secured stable operations in those projects. So, we understand that IP 20 is sufficient. Kindly confirm if it is acceptable.	Bid conditions prevails
108	Part 2	Particular Specification	5.8.8.4	PSD commands in ATP, ATO, DTO and UTO mode shall be transferred between On-board ATC or Interlocking to PSD directly or by faster route so that response time from instance of giving command from on-board ATC to reach the PSD system shall be less than 300 ms.	Response time from the instance of giving command from on-board ATC to reach the PSD system is approximately 1300 ms. Please relax the conditions.	Refer Addendum
109	Part 2	Particular Specification	5.9.2	The Temporary speed restriction function, its application and release shall be a SIL 4 function in ATP systems.	Until now, this specification was accomplished with ATS (SIL2). Please relax the conditions to SIL2.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
110	Part 2	Particular Specification	12.9.4	<p>The simulator should be capable of being used for simulations for fault. The simulator shall have the capability to test whether any printed circuit board/sub- module is defective or not.</p> <p>This shall be achieved for all type of printed circuit boards/sub-modules of CBI, object controller, wayside signal, point machine (depot as well as mainline), Train detection, Trackside & On-board ATP, ATO, ATS, Data communication system, VMS etc.</p>	Please explain in detail the specification of the simulator mentioned here.	<p>This is part of the offline test center. This simulator is for quick and reliable testing and trouble-shooting of various signalling hardware.</p> <p>This is a standard requirement in various Metros projects already implemented in India.</p> <p>The contractor shall design the simulator to meet the detail requirement in the bid.</p>
111	Part 2	Particular Specification	5.4.4	Any delocalization of train, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a manual intervention requirement at the train.	<p>We will be able to perform a speed check of 15 kmph through the on -board device.</p> <p>Please confirm if this solution is acceptable?</p>	Refer Addendum
112	Part 2	Particular Specification	5.4.4	Any delocalization of train, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a manual intervention requirement at the train.	The on-board equipment shall only check the speed of 15 kmph because the control from the ground equipment is not possible when the signal communication is interrupted. We request that other controls shall be performed at the operator's responsibility via TETRA, and the operation shall be controlled outside the responsibility of the signalling equipment.	Refer Addendum
113	Part 2	Particular Specification	5.8.1.1	<p>The Signalling and Train Control System shall ensure safe movement of all</p> <p>Trains under all operating conditions by continuously generating a safe operating envelope defined by the LOMA and the Maximum Safe Speed</p>	<p>Please acknowledge the following.</p> <p>CBTC shall guarantee safety for train movements only with CBTC equipment and all function is working correctly.</p>	<p>This is a standard safety requirement of any ATP system. The CBTC system under the scope of this contract also needs to fulfill this requirement in UTO/DTO/ATO/ATP modes of working. In RM mode, the safety features described in the contract needs to be fulfilled. This is apart from the Interlocking safety for all vehicles in any mode.</p>
114	Part 2	PS- Appendix 2P-1	2.3.4 h)	Also, the wash plant shall be placed on a ramp gradient or on level tangent track.	Please request to Rolling Stock Supplier for achieving low speed operation for wash purpose.	The interface requirements shall be taken up in the interface with RS contractors.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
115	Part 2	PS- Appendix 2P-1	2.3.4 n)	RS contractor may provide necessary inputs to the STC contractor for the design of the wet profiles.	Please make sure that the RS contractor provides the "Wet Profile" to signaling contractor. Signaling contractor cannot design braking pattern without it.	<p>The design of wet profile is signalling responsibility. All necessary inputs on train performance in wet conditions shall be obtained in the interface forum for signalling contractor to prepare the wet profile.</p> <p>All indications for the OCC operator to identify slip/slide shall be provided in ATS work station. The wet/dry profile shall be selectable by Operator in ATS terminal. Slip/Slide triggers should be obtained from Rolling Stock through the interface forum.</p>
116	Part 2	PS- Appendix 2P-1	2.3.6 m)	UTO shall be capable of operating train with wet speed profile being selected from OCC through ATS to minimise the wheel slip/slide occurrence. RS contractor may provide necessary inputs to the STC contractor for the design of the wet profiles.	Please make sure that the RS contractor provides the "Wet Profile" to signaling contractor. Signaling contractor cannot design braking pattern without it.	<p>The design of wet profile is signalling responsibility. All necessary inputs on train performance in wet conditions shall be obtained in the interface forum for signalling contractor to prepare the wet profile.</p> <p>All indications for the OCC operator to identify slip/slide shall be provided in ATS work station. The wet/dry profile shall be selectable by Operator in ATS terminal.</p>
117	Part 2	PS- Appendix 2P-1	2.4.18	For compatibility, Rolling Stock and the train detection system (CBTC antennae/track circuits/axle counters), shall conform to EN 50238.	EN50238 is only applied to Track Circuit/Axle Counters. (EN50238 is not applied to Radio based signalling system)	Refer Addendum
118	Part 2	Particular Specification	5.8.12.1	The maximum number of trains that can be processed by a single wayside controller shall be between 10 to 40. This shall be ensured with signalled headway of 90 sec and shall consider all train bunching scenarios of the trains in case of any failure.	Headway of 90sec cannot be realized by ONLY Signalling system. Other contractors shall consider this requirement. Please confirm if our understanding is correct.	Bid condition prevails
119	Part 2	Particular Specification	5.23.9.8	CBTC radio shall preferably use 5.8 GHZ.	We use 2.4GHZ.	Refer Addedum
120	Part 2	Particular Specification	6.7.3	f) IP 52 for enclosures to be installed in equipment rooms.	Our ATP wayside equipment in equipment room is IP20. Please confirm is this is acceptable?	Refer Addedum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
121	Part 2	Particular Specification	6.7.3	e) IP 54 for internal train borne equipment.	Our ATP internal train borne equipment is IP20. We have delivered systems based on IP 20 in past projects and we have secured stable operations in those projects. So, we understand that IP 20 is sufficient. Kindly confirm if it is acceptable.	Bid condition prevails
122	Part 2	Particular Specification	5.8.8.4	PSD commands in ATP, ATO, DTO and UTO mode shall be transferred between On-board ATC or Interlocking to PSD directly or by faster route so that response time from instance of giving command from on-board ATC to reach the PSD system shall be less than 300 ms.	Response time from the instance of giving command from on-board ATC to reach the PSD system is approximately 1300 ms. Please relax the conditions.	Repeat query 108
123	Part 2	Particular Specification		The Temporary speed restriction function, its application and release shall be a SIL 4 function in ATP systems.	Until now, this specification was accomplished with ATS (SIL2). Please relax the conditions to SIL2.	Repeat query 109
124	Part 2	Particular Specification	12.9.4	The simulator should be capable of being used for simulations for fault. The simulator shall have the capability to test whether any printed circuit board/sub- module is defective or not. This shall be achieved for all type of printed circuit boards/sub-modules of CBI, object controller, wayside signal, point machine (depot as well as mainline), Train detection, Trackside & On-board ATP, ATO, ATS, Data communication system, VMS etc.	Please explain in detail the specification of the simulator mentioned here.	This is part of the offline test center. This simulator is for quick and reliable testing and trouble-shooting of various signalling hardware. This is a standard requirement in various Metros projects already implemented in India. The contractor shall design the simulator to meet the detail requirement in the bid.
125	Part 2	Tender drawing	N/A	N/A	Where do you expect the antenna pole to be located in the elevated section? Both sides? In the middle? We couldn't read it from the cross section.	On the outside edges (hammer head) of the viaduct U girders. i.e. outside the Up and Down tracks, not in between the tracks
126	Part 2	Tender drawing	CRD Submission - C4P5 Alignment (Plan & Profile) - From Start of Project to Poonamalle Bypass to Depot.pdf	N/A	C5 passes through the following four stations in the section where C5 and C4 share the elevated tracks, right? (1) ALT Sta. (2) VLV Sta. (3) KAR Sta. (4) ALP Sta.	C5 and C4 doesnot share the tracks. The corridors are on different levels. So the mentioned stations will have 4 platforms each. The interconnection between corridors 4 & 5 (single track) shall be at one location, as shown in the Track Alignment.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
127	Part 2	Tender drawing	CRD Submission - C4P5 Alignment (Plan & Profile) - From Start of Project to Poonamalle Bypass to Depot.pdf	N/A	Please explain the operational purpose of "Service Connection Profile" between VLV and KAR stations.	Refer Particular specification 2.2.5 and PS Appendix 2P-1 Clause 2.3.11 c) xxiv for more details.
128	Part 2	Tender drawing	HORIZONTAL & VERTICAL ALIGNMENT CONSTRUCTION REFERENCE SCHEMATIC	N/A	Please explain details of the line schematics of "Stagged Scissor" and "Stagged Turnout" between VLV and KAR stations.	In the upper deck level, The "stagged scissors" as per the drawing connects the UP and DN line of C5 (Cyan and Green colour in the drawing) with the middle service loop. The service loops takes a downward gradient to the lower deck level. The "stagged turnouts" connects the middle service loop to the UP and DN lines of C4 in the lower deck level (Magenta and the blue colour in the drawing)
129	Part 2	Tender drawing	Track Schematics - Circular connection - C5 & C3.pdf	N/A	<p>Please describe operational details of "Sholingnallur Circular Operation".</p> <p>(1) C5 ELT station (DN Line) to C3 OTP station. Is it basic to go straight into C3 and head towards KRP station? Or is it basic for C5 to turn back at OTP station?</p> <p>(2) C3 KRP station (UP Line) to C3 OTP station. Is it basic to go straight into C5 and head towards ELT station? Or is it basic to head towards C3 SHN station?</p> <p>(3) C3 SHN station (DN Line) to C3 OTP station. Is it basic to go straight towards KRP station? Or is it basic to turn back at OTP station?</p>	<p>Trains from C5 DN line travelling from Global hospital to Elcot DN platform can go directly to the UP platform of Okkiyam thoraipakkam and continue its travel on UP line towards thiruvanmiyur.(Red to Magenta).</p> <p>Similarly trains coming from Thiruvanmiyur direction on DN line of C3 after reaching DN platform of Okkiyam thoraipakkam, can go directly to UP line of C5 to the UP platform of Elcot and continue its travel towards Global hospital. (Magenta to Red).</p> <p>The above two movements are part of circular operation. Apart from the above, a train from Shollinganallur to Okkiyamthoraipakkam can continue its travel towards Thiruvanmiyur on UP line. (Cyan to Magenta).</p> <p>A train from thiruvanmiyur on DN line can go towards Shollinganallur (Magenta to Cyan).</p> <p>Apart from these movements, turnbacks are possible at Okkiyam thoraipakkam for cyan line trains on middle platform. Other turnbacks possible which the track layout permits, also shall be possible.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
130	Part 2	Particular Specification	4.9.1	The Signalling and Train Control System shall provide a minimum designed signalled Headway of less than or equal to 90 Seconds with 30- second dwells at intermediate stations and a minimum 90 sec layover at the terminal station platforms (minimum 30-second layover when front crossover is used), The Headway calculation will include Train operation time, PSD Operation time, application and release time of service brakes etc.. For design of minimum Headway requirement calculation, 6 car consist may be used.	Please add "without turn back" for condition of headway of less than 90 sec.	The turnback at terminal stations needs to be part of the headway simulation and validation
131	Part 2	Particular Specification	5.8.6.6	The Emergency stop plunger shall only be reset by authorized station staff physically.	Does this mean that the access should be restricted so that the Emergency stop plunger can be accessed only by a staff that has a physical key?	Access shall be provided freely for passengers with a breakglass arrangement. Reset can be in an authorized manner. Eg: a physical key
132	Part 2	Particular Specification	5.8.9.19	The Logic for this preemptive operation of Points by ATS shall consider the subsequent movement of trains involving the point which includes the flank protection also.	The required function of Flank Protection is unclear. Please explain the same.	This is not directly related to flank protection in interlocking. The points which are free to Operate to a position favourable for the subsequent movement shall be operated in an preemptive manner This facility is to reduce the route setting time and and reduce the number of points being operated simultaneously. Details of implementation will be finalised in detailed design stage.
133	Part 2	Particular Specification	5.8.11.7	The mainline signals and route indicators shall be kept blank for trains in UTO mode.	Does this mean that we have to keep the traffic lights turned off throughout?	For UTO mode trains, the signal shall be kept blank. This has to be implemented automatically by the system.
134	Part 2	Particular Specification	5.8.13.5	Separate Interlocking units (CBI) shall be provided at Depot. The Interlocking Capacity in Depot shall be expandable for at least 150% of the existing capacity.	Please clarify what the word "capacity" here refers to.	Capacity refers to the ability of the interlocking to accommodate future increase in number of line -side elements and routes.
135	Part 2	PS- Appendix 2C	N/A	N/A	Does this mean that we do not place a VDU in the depot?	Yes VDU required. Refer Addendum
136	Part 2	Particular Specification	5.20.11.1	All other stations SER shall have facility to plug the diagnostic laptop.	Can the Maintenance and Diagnostic workstation be installed at the interlocking station?	SMR of each station provided with Interlocking Logic Master unit and stations with points and crossings shall be provided with maintenance and diagnostic computer with monitoring and diagnostic software

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
137	Part 2	PS- Appendix 2C	N/A	N/A	Can the ATS network have an independent network configuration for each of the three corridors?	As circular operation & inter-corridor movements are envisaged, the ATS network has to be seamless for all corridors, from an Operator perspective. An integrated ATS is envisaged for all 3 corridors. The Availablity and Reliability shall be ensured
138	Part 2	PS- Appendix 2C	N/A	N/A	Should the Corridors 3/4/5 have their own individual OCC/BOCC Workstation?	Workstations in OCC/BOCC shall be capable of operating one or more lines based on AOA and ACR. An integrated Work Station is envisaged, for various controller positions.
139	Part 2	PS- Appendix 2C	N/A	N/A	This specification can be satisfied by having 1 unit of 43" depot controller monitor at the ATS Workstation, instead of having 3 units of 22" depot controller monitor. So, we would like to go with 1 unit of 43" depot controller monitor. Kindly acknowledge the same.	Bid condition prevails
140	Part 2	PS- Appendix 2C	N/A	N/A	We think that two Depot Controllers are required at the ATS Workstation in a redundant configuration. Kindly verify the same.	Refer Addendum
141	Part 2	PS- Appendix 2C	N/A	As per PS 5.16.25	Particular Specification - 5.16.25 is missing in the provided document. Kindly confirm.	Refer Addendum
142	Part 2	Particular Specification	5.21.3.3	The ATS workstation for the crew controller shall be provided in crew room at Depot.	Does this mean that there will be no crew rooms in the stations other than the depot?	YES
143	Part 2	Particular Specification	5.23.10.10	N/A	Is there a designated path for establishing optical connection between OCC / BCC and the respective section?	Phase 1 Cable trays are available from Vadapalani station (ph 1) to the OCC and from Alandur station (Ph 1) to the Nandanam station on UP and DN line seperately. The same cable trays can be made use of for the connectivity to OCC/BOCC for the Phase 2 network.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
144	Part 2	Particular Specification	5.20.4.14	Ethernet network shall be based on 10 Gbps or better standard.	10 Gbps seems over spec for signalling network and this requirement will only increase the cost of the signalling system for no reason (10 Gbps optic fibre port switch is very expensive when compared to 1 Gbps). Our signalling system is only expected to utilize around 10 Mbps out of 10 Gbps capacity. Most of the 10 Gbps capacity will never be utilized since the signalling network is dedicated for communications between signalling devises and cannot be used for other purpose (i.e., Telecom or CCTV network should be used for such case). Is 10 Gbps network required for signalling network even if we provide separate 10 Gbps network for CCTV? We recommend the standard of 1 Gbps for signalling network rather than 10 Gbps.	Agreed. Refer Addendum
145	Part 2	Particular Specification	5.20.16.15	Video wall at Security Control Room at OCC and BOCC: LCD video walls (4K resolution) with LED light source shall be provided. The video wall shall be bezel less in nature and the inter screen gap shall be less than 5 mm. The approximate diagonal size of each screen shall be 55- 65 inch. The approximate wall area will be 20 sq m. The LCD video wall modules shall be capable of 24x 7 application and the life of light source of the screen shall be not less than 80,000 hours. The detail size and number shall be identified in ergonomic study. The screen shall have redundant controller and power supply and cable link, to avoid single point failure. The video wall shall be capable of accepting feeds from the on-board CCTV system and the way-side CCTV system and display. The screen layout shall be configurable for the Operator. The signalling contractor shall provide all redundant controllers for receiving the feeds.	We would like to propose the following: 1) 1 sq m of wall area can accommodate 1 60-inch display. Since the wall area specified here is 20 sq m, 20 units of 60-inch display will be required. 2) Also, redundancy is required for power/signal source. The range of available product to accommodate such requirement is very limited but the requirement of SCC/DCC is slightly different to that of OCC/BCC and it is problematic in the procurement and maintenance point of view. Is it possible to use the same type of wall controller/screen for all OCC/BCC/SCC/DCC rather than having different types? Kindly confirm if this is acceptable.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
146	Part 2	Particular Specification	3.2.1.2.1	<ul style="list-style-type: none"> • RPS for Signalling, VMS (CCTV videos of Train-borne), Power SCADA and CCTV system (CCTV videos of stations/tracks/depot) at OCC and other locations. 	<p>We understand that RPS for Signalling, VMS (CCTV videos of Train-borne), Power SCADA and CCTV system (CCTV videos of stations/tracks/depot) at OCC and other locations are to be provided by the S & TC contractor. Whereas the Power SCADA and CCTV systems on the whole are not a part of S&TC contractor.</p> <p>Kindly confirm if our understanding is right.</p>	<p>Power SCADA and Station CCTV system is not in the scope of this contract. Signalling system and VMS system (CCTV videos of train-borne) is within the scope of signalling contractor.</p>
147	Part 2	Particular Specification	5.20.16.10	<p>The S & TC contractor shall also provide the driver/controller hardware to connect the Power SCADA system with the RPS. The S & TC contractor shall coordinate with the Power SCADA System Contractor & provide them details of the proposed RPS and communication protocol requirements so that the SCADA system would be able to drive the RPS screens through the driver/controller provided by the S &TC contractor. Similarly interfacing shall be done with on-board CCTV system (VMS) and Way-side CCTV system with Telecom contractors).</p>	<p>We understand that RPS for Signalling, VMS (CCTV videos of Train-borne), Power SCADA and CCTV system (CCTV videos of stations/tracks/depot) at OCC and other locations are to be provided by the S & TC contractor. Whereas the Power SCADA and CCTV systems on the whole are not a part of S&TC contractor.</p> <p>Kindly confirm if our understanding is right.</p>	<p>Power SCADA and Station CCTV system is not in the scope of this contract. Signalling system and VMS system (CCTV videos of train-borne) is within the scope of signalling contractor.</p>
148	Part 2	Particular Specification	5.4.6	<p>Any rebooting of the system partially or completely because of any reason including power supply failure for a brief period, the system shall be capable of resumption of all functionalities without any manual intervention at site.</p>	<p>Both the hardware and software shall be restarted automatically but it cannot be completely restored to the state before the power failure. The system shall be restored automatically to display the login screen. Considering the security related issues, login ID and Passwords are to be entered manually.</p> <p>Is this acceptable?</p>	<p>Log in ID in the ATS screens in OCC and SCR is acceptable. But the system shall be capable of restoring all other functionalities of operating trains in UTO mode as per timetable with all Interfaces with Passenger Information system, VMS etc working.</p> <p>No intervention in equipment room or other location except for log in and password in work stations in OCC,BOCC and SCR is acceptable.</p>
149	Part 2	Particular Specification	5.22.5	<p>The latency of the live video stream shall not be more than 500 milli seconds.</p>	<p>We understand that this latency request is under normal condition, excluding special conditions such as disconnection recovery. Depending upon the cases, there are chances where 500 ms cannot be achieved. So, we would like to request you to add "under normal conditions" to the end of this clause.</p>	<p>Agreed. Normal conditions means the working of VMS system and DCS system normally. Any bunching of trains owing to signalling or RS failure and/or projection of more cameras from a single train at OCC/SCC to identify any event inside the train etc doesnt qualify to be a abnormal condition</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
150	Part 2	Particular Specification	5.22.6	The video management system shall provide facility to view the video feeds from the train cameras live as well as play back. The system shall have facility for the Operator to download selected videos of selected time window to the VMS work stations.	Kindly confirm if these videos are to be downloaded from NVR, where the NVR is the scope of RS contractor.	Selective downloading of videos by Operator are required from the NVR supplied by RS contractor to the central recording facility supplied by STC contractor. Refer Clauses 5.22.16 and 5.22.12 for more information
151	Part 2	Particular Specification	5.22.11	The VMS workstation provided for each traffic controllers shall obtain the AOA and ACR automatically from the corresponding ATS workstations. The eventbased trigger for each workstation shall be based on the geographical area mapped to the controller position in the ATS. Change in the control area shall be possible in VMS workstation manually also.	This function can be satisfied by ATS system. So, we would like to implement the same through ATS system. We request you to kindly delete the phrase "Change in control area shall be possible in VMS workstation manually also"	Agreed Refer Addendum
152	Part 2	Particular Specification	5.22.13	The VMS system shall provide live viewing of maximum number of cameras from a train in full quality till the band width permits. The system shall be capable of viewing videos from all cameras of a train in a reduced quality level. The VMS system shall be capable of managing the bandwidth limits by adjusting the resolution and frame rates of the cameras onboard the train to provide the maximum possible views with permissible quality within the bandwidth constraints.	Please confirm if on board cameras in which the resolution and frame rate can be adjusted to manage the bandwidth limits have already been requested to the RS contractors.	Yes. Interfqace specification asks for these facilities in the train borne CCTV system of Rolling stock. Refer Appendix 2P-1 of PS
153	Part 2	Particular Specification	5.22.17	Suitable mechanism shall be provided as a part of VMS to ensure that concurrent live viewing of the video stream from the same camera in multiple workstations (maximum 5) shall be possible. This shall be possible without wanting any additional bandwidth of the Wi-Fi network comparing to live streaming that camera in one workstation. The hardware or software used for this function shall have full redundancy to avoid single point failure and shall be designed taking the overall load of the network into consideration with 30% additional margin.	Transmitting the video from Camera directly to the 5 WS is not possible so we would like to implement the following: the streaming of the camera is first acquired by a device on the ground and then distributed to the WS upon request. Kindly confirm if this method of satisfying the requirement is acceptable.	The architecture can be designed by the contractor. THe latency requirement, availability requirement etc shall be taken care while desgning the system.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
154	Part 2	Particular Specification	5.23.8	<p>The Contractor shall be responsible for the network layout and for achieving a high level of service for the network including provision, as a minimum, of the following main functions:</p> <p>b) Quality of Service (QoS) to guarantee the end-to-end network performances requested for the sub-systems interconnection by using resource reservation and control mechanisms.</p> <p>c) Class of Service (CoS) for managing the traffic in a network by grouping similar types of traffic together and treating each type as a class with its own level of service priority needed.</p>	Please confirm if Weighted Fare Queuing can be limited to conduct only by wired communication rather than radio communication.	Ok. Noted. This is applicable for the wired communication which is also part of the DCS system
155	Part 2	Particular Specification	5.23.9.16	The non-CBTC radio communication system shall IEEE 802.11.n or higher. The throughput of non-CBTC radio for the communication from train to the wayside shall be 32 mbps or higher in all scenarios. The non-CBTC radio shall use minimum 2 x2 MIMO spatial streams.	<p>For instance, when two trains are passing though the same location, there are chances that both the trains are connected to the same Way side equipment. In such a case, we understand that the overall throughput for both the trains combined together is supposed to be 32 mbps, rather than every train having a throughput of 32 mbps.</p> <p>Kindly confirm if our understanding is right.</p>	<p>On a normal scenario, where the trains pass by each other, OR are parked on a platform in parallel OR trains stopped one behind other etc shall not cause a major deterioration in the bandwidth.</p> <p>The design of the radio system- distance between Access points etc shall take care of these scenarios to mitigate the issue.</p>
156	Part 2	Particular Specification	5.23.10.4	The maximum traffic interruption time on any circuit due to link, node or any other failure shall be less than 200 milli seconds.	This requirement is impossible to be satisfied by any vendor. Kindly modify/remove the clause.	Refer Addendum
157	Part 2	Particular Specification	4.11.3	Trains may be stabled/parked on a passenger platform based on the Operational requirements in the stopping position itself in the sleep mode.	Could you please explain the purpose of this request?	The trains may be stabled and kept under sleep mode either manually with a command from OCC or in a scheduled manner in time table. This can even happen in revenue hour on some unused platforms/sidings or in the non revenue hour in any platform/sidings. The signalling system including ATS, CBTC, Interlocking, time tabling etc shall support this.
158	Part 2	Particular Specification	4.13.2 c)	To proceed to the next station in ATP Mode in case the train overrun the stopping position more than 10m.	We understand that the driver manually operates the train to proceed to the next station in this situation. Is it correct?	The train will be operated by Driver in ATP mode.
159	Part 2	Particular Specification	4.13.2 c)	(For Last Train service it can be finalised during Detailed Design).	Please explain the kind of operation that is being considered for the "Last Train service"	Last train is typically operated without skipping any station. This is an operational procedure by the Intervention of Traffic controller.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
160	Part 2	Particular Specification	4.13.3	Trains which do not stop after jog attempts within the door authorization window shall automatically request to OCC along with train stop imprecision information figures in order to be authorized to proceed to next station and trigger announcements in train.	Our Signalling systems will transfer the data of door authorization window in units of 100 mm. Please acknowledge the same.	IEEE 1474.1 points to the typical distance resolution recommendation on Platforms which asks for Accuracy of measured train location for programmed station stop (ATO)purposes—with platform edge doors as +-0.05 m.
161	Part 2	Particular Specification	4.13.5	Once awake, these trains shall retain the door opening authorization so that the train doors and PSDs can be opened after wakeup in a scheduled manner or remotely from the OCC.	Conditions while performing a static test is not mentioned. So, we would like to confirm if we should test the opening/closing of doors on both the sides of the train.	The static test can be performed. The sequence of test to be done can be finalised in detail design. The operator shall have option to decide not to perform static test of doors also.
162	Part 2	Particular Specification	4.14.4	For the purposes of this demonstration, a delay to a single Train at any station of 2 minutes, with full Train service of constant required headway, shall be recovered within 20 minutes.	Recovery within 20 mins is possible only if the train in Normal mode does not operate in maximum speed. Kindly confirm the same.	The rum time reserve is mentioned in Clause 4.14.2. It is mentioned that the recovery can make use of run time reserve as well as the min dwell time in the timetable
163	Part 2	Particular Specification	4.16.1	The normal mode of operation for Trains equipped with UTO shall be UTO mode	Though the operations of ATP, ATO, DTO, and UTO are all specified in the requirement, we understand that UTO mode will be the normal mode of operation. Kindly confirm the same. If so, does it mean that DTO mode will be used only during emergency?	DTO will be used based on the operational decision of the Operator. It need not be only on emergency.
164	Part 2	Particular Specification	4.17.1	The Signalling and Train Control System shall control the movement of following Trains to avoid frequent occurrences of acceleration and braking. This function shall not compromise the headway and capacity requirements.	Implementing of this requirement to avoid frequent occurrences of acceleration and braking may reduce the efficacy of moving blocks. Especially, headway is affected. So, we would like to suggest removal of this clause.	This clause is under Ride quality. The acceleration and braking shall not hamper the ride quality prescribed in the Interface document Appendix 2P-1. The prescribed ride index shall be a parameter for all headway simulation and design of speed profiles.
165	Part 2	Particular Specification	4.17.1	The Signalling and Train Control System shall control the movement of following Trains to avoid frequent occurrences of acceleration and braking. This function shall not compromise the headway and capacity requirements	The following sentences seem to be contradictory. Please provide possible operational scenarios. "The Signalling and Train Control System shall control the movement of following Trains to avoid frequent occurrences of acceleration and braking" and "This function shall not compromise the headway and capacity requirements."	This clause is under Ride quality. The acceleration and braking shall not hamper the ride quality prescribed in the Interface document Appendix 2P-1. The prescribed ride index shall be a parameter for all headway simulation and design of speed profiles.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
166	Part 2	Particular Specification	5.4.5	Necessary checks to ensure the safety and integrity shall be ensured by the vital systems of signalling.	The on-board equipment shall only check the speed of 15 kmph because the control from the ground equipment is not possible when the signal communication is interrupted. Other controls should be performed at the operator's responsibility via TETRA, and the operation should be controlled outside the responsibility of the signal equipment.	Refer Addedum
167	Part 2	PS- Appendix 2P-1	2.3.4 b)	Information of the operation of the equipment shall be transmitted to the OCC via the Signalling & train Control system.	Please elaborate this requirement, especially the purpose of information transmission to OCC.	The information for meeting the requireemnt as per the clause shall be identified and implemented jointly by RS contractors and STC contractor
168	Part 2	PS- Appendix 2P-1	2.3.4 b)	Complete information of trains shall be transmitted to OCC/BCC/DCC to enable the OCC to determine the status of the equipment, sub-systems, and systems of the Trains and to issue the required control commands to the Trains via Signalling & train Control system and via RTR-DMS system of RSC work- station to monitor,	Please provide us with the definition of "Complete information trains".	The information for meeting the requireemnt as per the clause shall be identified and implemented jointly by RS contractors and STC contractor
169	Part 2	PS- Appendix 2P-1	2.3.4 d)	All equipment shall be provided with self-diagnostics function and the health status shall be transmitted to the OCC via the Signalling & train Control system.	Please define "self-diagnostics function"? Our ATP subsystem has self-diagnostic function that satisfies SIL. If you have any other requirements, kindly let us know.	All systems from signalling train-borne including Communication equipemnts, switches, train borne signalling equipment etc shall meet this requirement. Self diagnostics is to be understood as providing sufficient details to the Operator/maintenance technician for them to decide on train handling/Equipment restoration strategy in the shortest possible time.
170	Part 2	PS- Appendix 2P-1	2.3.4 f)	UTO shall also provide “All-Out Mode” of train operation to make up time loss to the extent possible by reducing the coasting period in case train is not running in accordance with Time-Table.	When All Out Mode is applied, the way to recover headway is not by reducing the coasting period, but by adjustment of operation speed. Kindly confirm the same.	All out mode can be used for recovery, by reducing the coasting periods, increasing the average speed , as required.
171	Part 2	PS- Appendix 2P-1	2.3.4 f)	This shall be conducted in online during train operation.	Please confirm that shift/change to "All Out Mode" is only possible when a train departs from a station. In other words, shift/change to "All Out Mode" during train running is not permitted.	This shall be conducted in online during train operation. Operation includes running, stopping at station, dwell time etc.
172	Part 2	PS- Appendix 2P-1	2.3.4 q) i)	Equipment required enabling the Trains to receive commands from the Signalling system and radio system shall remain live.	Please instruct RS contractor to keep power on, when a train is in Sleep Mode in order to make signaling equipment ready to wake up.	STC contractor needs to interface with RS contractors for meeting necessary requirements

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
173	Part 2	PS- Appendix 2P-1	2.3.6 b)	The ATO system shall provide control for acceleration, deceleration and coasting of trains in such a manner that the specified schedule speed is achieved with minimum energy consumption.	As a signalling contractor, it is possible to control pre-defined profile. In order to achieve Minimum energy consumption in other normal profiles , RS contractor needs to control it. Kindly confirm the same.	STC contractor shall optimise the speed profile to make use of the prescribed run time reserve to optimise the energy consumption. If any information is required for this ,STC contractor may interface with RS contractor in the interface forum,
174	Part 2	PS- Appendix 2P-1	2.3.6 b)	The minimum energy consumption of trains specific to the complete individual corridor shall be recorded in a joint verification with STC and RS contractors with CMRL.	This is not the scope of Signalling Contractor. Only a vehicle equipment can control the power consumption. Kindly confirm this with RS contractor.	the energy consumption (traction part) can be jointly recorded as a interface test. The energy consumption varies when train is operated by signalling in various run time reserves. Hence the signalling system performance inturn decides the traction power consumption of trains. This is a standard feature in many signalling system
175	Part 2	PS- Appendix 2P-1	2.3.6 h)	Receipt and implementation of control to skip one or more stations.	Please specify what kinds of skip is intended, because signaling contractor needs to obtain such information before detailed design. Especially, please provide how many station's skip will be required at maximum.	One or more stations may be skipped based on operational needs. System to provide the requisite flexibility.
176	Part 2	PS- Appendix 2P-1	2.3.7 c)	Provision of an audio-visual warning to the train operator in non-UTO modes, when the system identifies that the train is operating at a speed in excess of the maximum safe speed; recognition of a delay of 2s for the train operator to react, and service brake application should the train operator fail to reduce the speed below the maximum safe speed in a specified time.	The precondition to provide a delay of 2s in such a case is that the train is only experiencing coasting movement. This is to avoid reducing the FSB speed. Kindly confirm if the above pre-condition is acceptable.	This can be decided in the design phase.
177	Part 2	PS- Appendix 2P-1	2.3.7 e)	Loss of this signal shall cause the ATP system to initiate a brake application.	Whether to use EB or FSB or any other types of brake depends on the requirement of a project. Here, we would recommend applying FSB.	When the train is in standstill, the loss of this signal shall not start the train. Propulsion release shall not happen. When the train is partially on the platform, in motion, when the signal is lost, Emergency brake shall apply. The details will be decided in desgn phase.
178	Part 2	PS- Appendix 2P-1	2.3.8	Restricted Manual (RM) and Run on Sight (ROS) Mode	During RM and ROS modes, the system does not create FSB patterns. Kindly acknowledge the same	in RM/ROS mode, the maximum train speed shall be controlled by the on-board ATP, to a limit not exceeding 25 kmph and if the speed limit is exceeded, signaling system shall apply emergency brakes.
179	Part 2	PS- Appendix 2P-1	2.3.8 b)	The running monitoring shall be the same as for RM.	What is the difference between ROS mode and RM mode?	RM and ROS mode are the same. the terminology can be used interchangeably.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
180	Part 2	PS- Appendix 2P-1	2.3.8 c)	In Restricted Manual Mode the train operator shall be able to control Train's doors when the Train is stopped within the station stopping limits	During RM mode, door opening of PSD is not interlinked with train doors. Please acknowledge the same.	In RM mode, When the Train Operator uses the Permissive Door Button (PDB), the PSD also shall Open and close along with train doors using the direct communication path designed for PSD Open/close commands from train borne signalling.
181	Part 2	PS- Appendix 2P-1	2.3.9 a)	RS Contractor shall provide equipment and means to ensure that the maximum train speed remains within the above mentioned limits when the Cut-out Mode is in effect, under all circumstances.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Speed monitoring in cutout mode is responsibility of RS contractor. Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
182	Part 2	PS- Appendix 2P-1	2.3.9 a)	This shall be considered as Low speed cut out (25 Kmph & within depots) and High speed cut out (40 Kmph in mainline).	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Speed monitoring in cutout mode is responsibility of RS contractor. Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
183	Part 2	PS- Appendix 2P-1	2.3.9 b)	The operation shall be recorded by the on-board digital counter and	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Speed monitoring in cutout mode is responsibility of RS contractor. Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
184	Part 2	PS- Appendix 2P-1	2.3.9 b)	The SCS shall be provided by RS Contractor.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	The SCS rotary switch is in the scope of RS contractor. But Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
185	Part 2	PS- Appendix 2P-1	2.3.9 b)	The on-board digital counter shall be provided by the STC Contractor.	It is not scope of Signalling supplier. Please confirm the same.	The SCS rotary switch is in the scope of RS contractor. But Non resettable counter separately for high speed cutout and low speed cutout to be provided by signaling contractor.
186	Part 2	PS- Appendix 2P-1	2.3.9 c)	In this mode, the train doors shall only be enabled and controlled manually by train operator.	It is not scope of Signalling supplier. Please confirm.	Train door control in cutout mode is RS scope
187	Part 2	PS- Appendix 2P-1	2.3.10 c)	The details of the mode will be finalised during design stage.	Kindly request RS contractor for accomplishing this door opening mechanism during stand by mode.	STC contractor shall Interface with RS contractors for meeting the interface requirements.
188	Part 2	PS- Appendix 2P-1	2.3.11 a) i.	Train identification number (Train ID)	The requirement shall be accomplished by entering the train Identification number from OCC (ATS).	Train ID can be entered from the ATS or will be generated based on the scheduled trip as per timetable OR can be entered from Train Operator DMI touch screen, as a minimum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
189	Part 2	PS- Appendix 2P-1	2.3.11 a) ii.	Physical car numbers	The requirement shall be accomplished by entering the Physical car numbers from VOBC.	The physical car numbers shall either be obtained from the RS system or needs to be entered into train borne signalling equipment, which is only accessible to project/ maintenace staff.
190	Part 2	PS- Appendix 2P-1	2.3.11 a) iii.	ATC number	Please define "ATC number".	The unique number of the ATC equipment
191	Part 2	PS- Appendix 2P-1	2.3.11 a) iv.	Crew number	The requirement shall be accomplished by entering the Crew number from DMI.	Provision shall be provided to enter in the touch screen DMI (supplied by STC contractor) in the emergency operator panel.
192	Part 2	PS- Appendix 2P-1	2.3.11 b)	RS contractor shall provide suitable arrangement for Train Operator to view this information displayed on the Frontal display provided on front and other display information inside the train from the operator's emergency desk.	Please provide the definition, purpose, and location of "the operator's emergency desk".	Operators emergency desk is the Operator desk on both ends of the train from which the train operator drives the train. Signalling DMI is part of the Operator desk. Details of design & installation to be co-ordinated with the RS Contractor.
193	Part 2	PS- Appendix 2P-1	2.3.11 c)xvi.	Information for RS door inhibition announcement and display.	Information for RS door inhibition announcement should be displayed only on the inhibited door or throughout the compartment?	The information shall be passed on by Signalling. Suitable manner to display is RSscope
194	Part 2	PS- Appendix 2P-1	2.3.11 c)xxiv.	The Rolling stock contractor shall also have an independent automatic route related announcement system in trains for redundancy purpose.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Agreed. This system may use some information provided by Signalling to RS systems. This is internal to RS
195	Part 2	PS- Appendix 2P-1	2.3.11 c)xxiv.	This redundant system shall be functional in all UTO, non-UTO and degraded modes of train operation and shall be designed to have all the functions of the Automatic Passenger announcement system in all the sections of all the corridors 3, Corridor 4 & corridor 5 of CMRL Phase 2 project.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	This is about the RS systems
196	Part 2	PS- Appendix 2P-1	2.3.11 c)xxiv.	It shall be possible by CMRL to modify the parameters in this announcement system to suit the requirements of passenger operations and new passenger information required.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	This is about the RS systems
197	Part 2	PS- Appendix 2P-1	2.3.11 f)	RS system shall automatically record the log each time the mode is changed using the on-board Signaling	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	The recording is in the scope of RS systems. Any information required for the same is to be provided by signalling system

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
198	Part 2	PS- Appendix 2P-1	2.3.11 h)	The redundancy shall also be provided on TCMS side by RS Contractor.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	The redundancy in TCMS side is RS scope
199	Part 2	PS- Appendix 2P-1	2.4.10 c)	There shall be no relays or contacts between the negative return connection and the battery terminals.	Depending upon the situations, to ensure safety, there may be instances where we will establish contacts or relays between the negative & positive return connection and the battery terminals. Please acknowledge the same.	Refer Addendum
200	Part 2	PS- Appendix 2P-1	2.4.10 g)	The RS contractor shall ensure that the connectors used in train line shall be of proven type with very high reliability and availability so that no momentary or permanent disconnection occurs when the train travels in high speed or in sharp curves.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Scope of RS contractor. However, as the connectors are vital for the availability of on-board Signaling System also, S&TC Contractor to get the required details from RS Contractor and provide appropriate inputs, as considered necessary.
201	Part 2	PS- Appendix 2P-1	2.4.10 h)	Train-borne Communication Protocol – The Signalling Contractor shall comply with train-borne communication protocol to be proposed by the Rolling Stock Contractor.	The signal manufacturer shall comply only with the RS-485 HDLC Base protocol. Please acknowledge the same.	Train-borne Communication Protocol – The Signalling Contractor shall comply with train-borne communication protocol to be proposed by the Rolling Stock Contractor.
202	Part 2	PS- Appendix 2P-1	2.4.11 a) ii	Train-borne signalling equipment rack supplied with anti-vibration pads which shall be installed by Rolling Stock Contractor	Please confirm if these anti-vibration pads are to be supplied by Rolling Stock Supplier.	Scope of signalling contractor
203	Part 2	PS- Appendix 2P-1	2.4.11 a) ii	Train-borne signalling equipment rack supplied with anti-vibration pads which shall be installed by Rolling Stock Contractor	Even if the Train-borne signalling equipment provided by Signalling contractor has already passed the vibration test without the anti-vibration pads, is there a necessity to provide the anti- vibration pads?	The train borne equipment shall pass the vibration tests as per standard without the anti vibration pads. Additionally Anti- vibration pads to be supplied to mitigate any unanticipated vibrations in the life time of the trains.
204	Part 2	PS- Appendix 2P-1	2.4.11 a) iii	Junction box, where signalling cables terminate	We will be able to provide the Junction box for TG only. Please acknowledge the same.	All junction boxes where the signalling cables are terminated shall be in the scope of signalling contractor. Details to be finalised as part of the interface process.
205	Part 2	PS- Appendix 2P-1	2.4.11 a) iv.	Signalling Cables (exclude cables from termination board to junction box and between termination boards) from the signalling equipment rack to termination board.	We will be able to provide the signalling cable for TG only. Please acknowledge the same.	All cables from on-board Signaling end device till Junction box and from the nearest termination board to the Signaling equipment racks, shall be in the scope of the S&TC Contractor. Details to be finalised as part of the interface process.
206	Part 2	PS- Appendix 2P-1	2.4.11 a)v.	Signalling cables between junction box and undercarriage equipment, to Rolling Stock Contractor for installation/mounting.	We will be able to provide the signalling cable for on board antenna only. Please acknowledge the same.	If any under carriage equipment is required as per design of Signalling system (eg: Odometer, balise reading antenna Radar etc) the cable from these equipment till the Junction box is the responsibility of the signalling contractor

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
207	Part 2	PS- Appendix 2P-1	2.4.11 b)	Rolling Stock Responsibilities:	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	The RS contractors responsibility is part of the Interface document which in turn is an appendix to Rolling stock PS
208	Part 2	PS- Appendix 2P-1	2.4.11 b) i.	Provide all supports, brackets braces, mounting holes, etc. to ensure proper mounting and to allow adequate maintenance access to the train- borne signalling equipment.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface
209	Part 2	PS- Appendix 2P-1	2.4.11 b) ii.	Provide adequate supports and stress relieving provisions for the cabling of signalling equipment after these are mounted to ensure that cables are not fouling, chaffing or unduly stressed with other equipment.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
210	Part 2	PS- Appendix 2P-1	2.4.11 b) iii.	Good ventilation facilities (e.g., ventilation louvers/ openings) in the train- borne signalling compartments shall be provided to allow air into the train- borne signalling equipment rack and to prevent condensation.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
211	Part 2	PS- Appendix 2P-1	2.4.11 b) iv.	Shall install each of Train exterior Signalling equipment.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
212	Part 2	PS- Appendix 2P-1	2.4.11 b) v.	Mounting brackets for junction box housing.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
213	Part 2	PS- Appendix 2P-1	2.4.11 b) vi.	Suitable support or clamping arrangement on the bogie for the flexible conduit to ensure that the connectors or cables shall not work loose or break due to the movement of flexible conduit even during the most adverse operation of the Trains.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
214	Part 2	PS- Appendix 2P-1	2.4.11 b) vi.	Such support / clamping arrangement shall ensure non-chaffing with other equipment or create undue stress on cables or connectors.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
215	Part 2	PS- Appendix 2P-1	2.4.11 b) vii.	Mounting plates and brackets for the exterior equipment viii.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
216	Part 2	PS- Appendix 2P-1	2.4.11 b) viii.	Suitable push buttons for Door open close, Permissive Door Button, Auto Reversal etc.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.
217	Part 2	PS- Appendix 2P-1	2.4.11 b) ix.	Rotary switches (or other suitable alternatives) for the cutout mode operation.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Clause under 2.4.11.b is under RS scope. Necessary inputs for respective RS contractor to perform these responsibility shall be provided by Signalling contractor as a part of Interface. The STC contractor shall satisfy himself that the signalling requirements are met before clearing the train for shipment.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
218	Part 2	PS- Appendix 2P-1	2.4.12	It shall also be noted that changes in the interface specifications such as key alarms, remote commands, interface signals and GUI specifications etc., are to be expected throughout the project execution stage and shall extend even after commencement of UTO operation based on operational and passenger requirements.	EOT and additional cost may be requested according to the change requests. Please acknowledge the same.	Requirements identified in the Testing & Commissioning phase of various stages of train borne system needs to be factored in as a part of the contract. Likewise, in respect of UTO Operation only, the changes required from an operational perspective, need to be carried out as part of the Contractual obligations, if notified within the DLP of the last stage. Beyond these periods, change request with reasonable EoT and Cost compensation will be considered. However, this is not applicable to rectification of snags identified during the DNP period of various stages, in respect of compliance with Performance & RAMS requirements of the Contract.
219	Part 2	PS- Appendix 2P-1	2.4.12	STC contractor and RS contractor system design shall be capable of accommodating these changes without major modification in the systems.	EOT and additional cost may be requested according to the change requests. Please acknowledge the same.	The system shall be designed with ample spare provisions to facilitate the addition, modification and deletion of alarms and remote commands , so as to minimise the effect of these modifications. EOT & Cost Compensation shall be as per response to Bidder's query on 2.4.12 of PS-Appendix 2P-1.
220	Part 2	PS- Appendix 2P-1	2.4.12	Necessary spare interface points, communication band widths etc shall be incorporated into the design from the beginning of the design phase itself to accommodate these future requirements (This is in addition to the provisions for 3 car to 6 car conversion).	EOT and additional cost may be requested according to the change requests. Please acknowledge the same.	The system shall be designed with ample spare provisions to facilitate the addition, modification and deletion of alarms and remote commands , so as to minimise the effect of these modifications. EOT & Cost Compensation shall be as per response to Bidder's query on 2.4.12 of PS-Appendix 2P-1.
221	Part 2	PS- Appendix 2P-1	2.4.20	The Rolling Stock Contractor shall advise the Signalling and Train Control Contractor on the protocol of communication with the TCMS and the response time.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Respective Rolling stock contractor will advise the communication protocol and network parameters for the data communication between the Train borne signalling equipment and TCMS. Signalling contractor shall design their equipment accordingly.
222	Part 2	PS- Appendix 2P-1	2.4.22	Both STC & RS Contractors to ensure that all input and output signals exchanged between rolling stock equipment and on-board signalling equipment shall be recorded and shall be available for retrieval on demand for analysis/record.	Logs are recorded by an external recording device in VOBC. Logs can be retrieved from the external recording device when required. Kindly acknowledge the same.	The requirement of remote log extraction to the central maintenance and diagnostics system shall be complied for retrieval of logs as per clause 5.6.1 of PS of ASA-04 bid.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
223	Part 2	PS- Appendix 2P-1	2.4.23	RS Contractor to ensure that all doors related and other safety/train control related signals including brakes, position of safety cut out switches, direction related relays, suspensions, obstruction on track, derailment, coupler status etc. are communicated to the signalling Contractor.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Scope of RS contractor. The STC contractor and respective RS contractor shall arrive at an agreement on the electrical and data communication interfaces as a part of Interface forum
224	Part 2	PS- Appendix 2P-1	2.4.24	Door control circuit design shall allow opening of doors in stand by position of mode selector under manual responsibility in case of non-availability of door opening authorization from ATP without losing the ATP mode.	Kindly request RS contractor for implementing this door opening mechanism during stand by mode.	Scope of RS contractor. The STC contractor and respective RS contractor shall arrive at an agreement on the electrical and data communication interfaces as a part of Interface forum
225	Part 2	PS- Appendix 2P-1	2.4.25	Provision of “Jog and Creep mode” operation with command to operate the train at specified reduced speed under degraded condition (e.g. aligning train in case of undershoot/overshoot of Normal Stopping Point within a limit) shall be addressed in the interface.	Please explain the difference between the terms "Jog" and "Creep".	Jog and creep are the same
226	Part 2	PS- Appendix 2P-1	2.4.26	The list of these failures shall be provided by RS contractor to STC contractor during the interface so that the STC contractor shall implement in a safe manner.	This requirement cannot be satisfied unless the TCMS is equal or above the standard of SIL2. So, kindly confirm the same.	TCMS is SIL 2.
227	Part 2	PS- Appendix 2P-1	2.4.28	The list of alarms, equipment status events and remote control commands shall be proposed by RS Contractor and approved by CMRL.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Alarms and commands related to RS equipments, which are relevant for the traffic controllers, will be proposed by RS contractor after CMRL approval. STC contractor shall accommodate the above in the ATS and trainborne Signalling design.
228	Part 2	PS- Appendix 2P-1	2.4.30	The location information shall consist of the track chainage, as provided in the design phase by the tracks department, corridor number, direction of travel and the line (UP or Down).	We understand that the "consist of the track chainage" mentioned here means the distance covered by the train between the departure station and the very next arrival station. This information of distance shall be transmitted to the train. Kindly confirm if our understanding is right.	The distance information shall be transmitted as a numerical value equivalent to what is obtained from tracks department as track chainage of that particular location, as an as-built data.
229	Part 2	PS- Appendix 2P-1	2.4.30	RS Contractor shall use the same for different distance based algorithms provided in the RS.	We understand that this is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Scope of respective RS contractor

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
230	Part 2	PS- Appendix 2P-1	2.4.32	To prepare Trains for the mainline service and depot movements, Train shall be initialised to assume a certain readiness state.	Please explain "certain readiness state" and what has to be done to achieve this state.	Part of detail design
231	Part 2	PS- Appendix 2P-1	2.4.32	Depending on the readiness state command, the individual system shall prepare itself with tasks such as self-check, static departure test, Train service facilities, public address announcement etc. The TDMS shall confirm the readiness state of the assigned Train back to the ATS system when the overall preparation is satisfactory.	The task of public address announcement shall be prepared by RS contractor. The execution result of the same shall be transferred to the on-board equipment by RS Contractor.	Shall be interfaced in the interface design discussions as per Industry practice.
232	Part 2	PS- Appendix 2P-1	2.4.32	If the preparation is not satisfactory, the respective fault code and diagnostic messages shall be transmitted by TDMS to the ATS system.	This is not the scope of Signalling Contractor. Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract.	Signalling system shall transmit the fault codes and alarms, diagnostic messages to ATS. Inputs from TCMS needs to be liased in the Interface forum
233	Part 2	Particular Specification	5.8.1.5	Braking distance shall be derived from a safe braking model that shall consider worst case system response times and failure conditions, consistent with railway industry practice.	This will comply with IEEE1474. Please acknowledge the same.	IEEE1474 shall be complied on this topic. The requirements of the Operational speed with respt to the design speed etc as listed in the Addendum needs to be complied with.
234	Part 2	Particular Specification	1.1	A Target Speed shall be calculated for display to the Train Operator to provide advance warning of changes in MSS in ATP operation.	<p>Apart from the name of the speed at Clause 1.1, following name of the speed is indicated in the Particular Specification. Please explain the concept & definition of all the speed terms mentioned below. Also elaborate the relationship between the terms, if any.</p> <p> Target speed, Actual speed, Maximum permissible safe speed (MSS), Maximum design safe speed Maximum Speed Maximum permissible speed Temporary speed Restriction Operational speed Civil speed Maximum permitted speed Advisory speed Advisory warning speed Slow speed (25 kmph) Safe train speed Low speed High speed Allowable speed Allowed Running speed Maximum safe speed Advice speed </p>	<p>Target speed,MSS are defined in the definitions of PS. Actual speed is the realtime speed of the train. Clause 2.3.7 of Appendix 2P-1 provides the value of max design safe speed. Maximum permissible speed mentioned in clause 2.3.8 points to the max operating speed allowed in reverse direction. Civil speed is a terminology used in IEEE 1474. Maximum permitted speed is same as MSS. Advisory speed which is derived by the ATR regulation of ATS for a train at any point of time. Advisory warning speed not t be used. Advice speed may be read as advisory speed.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
235	Part 2	Particular Specification	5.8.1.8	The system shall be able to close-up trains, in a safe manner using appropriate braking model, in stabling line of the depot and the mainline sidings for train without passengers parking in an automated /scheduled/remote manner in its nominated parking slots.	What exactly do "automated manner" & "remote manner" require? We understand that "automated" means automatic operation, "remote" means control when signal radio communication is normal. So "automated manner" & "remote manner" means UTO/DTO/ATO. Kindly confirm the same.	Parking in automated manner/ scheduled/ remote manner is the parking of trains in stabling line or sidings using the close up facility either automatically (as in depot stabling) or in a scheduled manner in mainline or siding as per time table. Stabling can also be done by the Operator after manually routing the train into siding or, stabling line, or, mainline platforms hours, using the commands in ATS system
236	Part 2	Particular Specification	5.8.3.2	The ATC calculates a normal station stopping braking curve from the Station Stopping Point (SSP).	Please define "Station Stopping Point (SSP)"and its position at the platform.	Station stopping point is the point at which train has to stop sothat the train doors are aligned with PSDs. The reference for the stopping point is the centre of any passenger door of the train of various rolling stocks in the system. The position of the SSP on a platform in normal and reverse direction depends on the postion of the 3-car length PSD provided on the platform. This input will be provided in the Interface forum before the detail design phase
237	Part 2	Particular Specification	5.8.3.2	When approaching the station, the Train hits the curve, and the ATC triggers an audible indication named station braking Announcement.	Kindly explain whether "The Advisory speed" or "the Warning Speed" is applied at "the curve".	IEEE 1474 may be followed.
238	Part 2	Particular Specification	5.8.4.1	The Signalling and Train Control System shall prevent unauthorized reverse movement of the Train (Roll back) in all the operating modes by applying the emergency brakes after a predetermined Distance.	If the predetermined distance is within 2m, the applied Emergency brake can be lifted manually. This can be repeated upto 5 times (i.e. 2m X 5 times = 10m). If the predetermined distance exceeds the above described 10m, the applied Emergency brake cannot be released manually. So, we recommend that the predetermined distance shall be within a distance of 2m.	The predetermined distance can be decided in detail design phase.
239	Part 2	Particular Specification	5.8.8.1	c) Open and close command to PSD based on the train consist length.	Kindly confirm whether it is acceptable to implement this clause by following method; It sends a signal that distinguishes the range of PSD that can be manipulated according to the composition length, but the Open/Close Command itself does not distinguish by composition length. The signal indicating the range is different from the signal for Open/Close Command.	Refer Signalling-PSD interface document for more detailed description. Appendix 2P-2 of PS

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
240	Part 2	Particular Specification	5.9.9	It should be possible to apply temporary speed restrictions in steps of 5 Kmph up to the maximum civil speed.	The value of "temporary speed restrictions" shall be MSS. • MSS from CBTC ground equipment shall be sent to CBTC onboard equipment in 5Kmph steps. After that, the speed limit value controlled by the CBTC onboard device may not be in steps of 5 Kmph.	The TSR value shall be the maximum civil speed at that section for that time.
241	Part 2	Particular Specification	5.9.10	Temporary speed restrictions shall be capable of being imposed over any track segment for any length in steps of 50m and 200m.	What is the purpose of limiting the steps in terms of 50m and 200m? Please explain.	Refer Addendum
242	Part 2	Particular Specification	5.9.14	System imposed temporary speed restriction can be removed by the system itself, once the event warranting the temporary speed restriction is resolved.	Please explain in detail what "the event" refers to.	Eg of Events (non-exhaustive): 1. The door loop breakage of PSD causing 20 kmph TSR, 2. Sweeping section, event warranting release of sweeping TSR is the movement of one train in the track section.
243	Part 2	Particular Specification	5.11.6	For those sections where the segregation is not available (e.g.: Tunnel cross passages, crossovers, common deck slab area etc), provision shall be given to the Operator to operate the train in UTO mode with suitable precautions (e.g.:	Please provide all the specific locations of the sections where separation is not available.	This information shall be obtained from the Interfacing contractors in the detail design phase.
244	Part 2	Particular Specification	5.12.6	The track section where sweeping zone is assigned or released shall not affect any other TSR implemented by the system or the Operator in the same section.	If the speed limit set by the sweep zone is lower than the speed limit set by other TSRs in the same section, the speed limit set by the sweep zone shall be applied. Please confirm if this is acceptable.	If sweep section and TSR is applied in the same section, the lower speed among the two shall be applied.
245	Part 2	Particular Specification	5.13.1.2	Docking shall be achieved if the Train is stopped within the limits defined in chapter 4 of this PS and proved to be stationary (or moving at less than 1 Kmph).	Define the duration of the train "moving at less than 1 Kmph" where "Docking" shall be achieved.	The duration shall be identified by the contractor based on the safe modelling of train stoppage at stations. The duration shall be maintained as small as possible based on the contractors design and not shall be more than 1 sec. Refer IEEE 1474.1 for general guideline on this topic.
246	Part 2	Particular Specification	5.14.1 P	Passenger Doors on any one side from Train Operator Panel	Please provide the definition, purpose, and position of "Train Operator Panel".	Train Operator panel OR Operators emergency desk is the Operator desk on both ends of the train from which the train operator drives the train. Signalling DMI is part of the Operator desk.
247	Part 2	Particular Specification	5.14.3.1	Facilities for enabling emergency opening of End Evacuation door shall exist anywhere on the line, provided.	Does "on the line" mean anywhere in the track circuit? Please explain the difference between "Train Passenger doors" and "End Evacuation doors"? What is the difference in the installation position?	End evacuation doors will be postioned at the end walls of the rolling stock which opens to the track. Passenger doors are on the side walls of the rolling stock. Anywhere on the line means anywhere in mainline, sidings, platforms.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
248	Part 2	Particular Specification	5.17.5	The equipment shall be mounted on the Train consists and OCS Maintenance Vehicles in accordance with the space constraints detailed in the S&TC/RS/OCS Maintenance Vehicles Interface Specification as mentioned	Only the equipment to detect the train's position shall be provided in the Maintenance Vehicles. Kindy acknowledge the same.	Refer Clause 5.17.7 of PS for more details and Grade of Automation
249	Part 2	Particular Specification	5.21.2.8	The movement from workshop line shall be in RM mode by a train Operator.	"From Workshop" is defined in the document. But "To Workshop" is not defined. So we assume that RM mode is used while driving to the workshop line also. Kindly confirm.	Refer clause 5.21.2.7 of PS for more details of the requirements that need to be complied.
250	Part 2	Particular Specification	5.21.2.8	The train shall upgrade to ATP/ATO/UTO mode before the train reaches the transfer location (manual to UTO transition).	It says that the mode shall be upgraded before the train reaches the transfer location. But is it acceptable if the train arrives at the transfer location and then the driver performs the operation to upgrade to ATP / ATO / UTO mode?	Yes subject to all preconditions for upgradation being fulfilled by the system, before the train reaches the deboarding platform of the transfer track
251	Part 2	Particular Specification	5.21.2.13	The UTO area will be fenced with access control protection.	This is not the scope of Signalling contractor.	Agreed
252	Part 2	Particular Specification	5.21.2.16	The depot signalling shall interface with the auto train wash plant system to enable train washing in UTO mode.	Please consider the following: <ul style="list-style-type: none"> The wash plant shall be placed on a level tangent track because many RS cannot be controlled at low speed on a ramp gradient. Kindly request the vehicle manufacturer to achieve the requirement of controlled low speed driving of train while washing the car. The car wash machine must have a structure that does not interfere with CBTC wireless communication. Please make sure that this requirement is satisfied. 	The wash plant may or may not be on a level tangent track. The requirement with RS for slow speed movement may be taken up in the Interface forum. The structure not interfering with CBTC equipemnt shall be coordinated in the interface forum with washplant supplier
253	Part 2	Particular Specification	5.23.9.9	The internal network of the train shall be segregated from the external radio network using suitable Layer 3 switches from the signalling contractor.	It is separated from the external wireless network using a dedicated line. However, since RS-485 will be used, Layer 3 switch can be not used. The function can be satisfied even without using the Layer 3 switch. Please acknowledge the same.	If the requirement arises for a Layer 3 switch on the signalling network, due to IP conflicts/interference from other systems including Rolling stocks, the same shal be provided by STC contractor.
254	Part 2	Particular Specification	5.23.9.15	The system shall be designed in a manner to handle the data communication requirement of localized bunching of trains owing to any signalling failure.	If the CBTC radio communication between the ground and the vehicle is interrupted, the requested function cannot be satisfied. Please acknowledge the same.	This clause is not related to DCS failure. This clause is aout the capacity and design of DCS to handle the number of trains in an area owing to signalling failure or other operational requirements.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
255	Part 2	Particular Specification	5.23.9.17	Provision shall be provided to remote reset the Wireless access points from the maintenance and diagnostic computer at OCC.	In case the CBTC radio's ground-to-vehicle communication is not normal, the function of remote reset cannot be achieved. Please acknowledge the same.	This clause is about remote reset of Wi-Fi Access Points, from the OCC, through the ground network of the Signaling system. The relationship with CBTCs ground-vehicle communication, does not seem relevant.
256	Part 2	Particular Specification	5.23.9.19	Two level authorization measure shall be built into before connecting these devices.	We understand that 1) "Wi-Fi" mentioned in this clause is a different network from CBTC network 2) this non-CBTC network is for maintenance purpose and is independent of the Signalling network. Please confirm if our understanding is right.	This is regarding making use of the non-CBTC wiFI system (which is used for various applications including the CCTV streams from trains for VMS system)for track installed sensors for various data aquisition purposes. These sensors shall not use the CBTC radio for connectivity
257	Part 2	Particular Specification	5.23.9.19	Additional two sub- networks shall be made available for future use for other maintenance systems mounted on rolling stock.	What kind of network does "Additional two sub-networks" mean?	2 Virtual LANs for future use. eg: If any data aquisition system is installled inside Roolling stock, these systems can use these VLANs.
258	Part 2	Particular Specification	5.23.10.2	The data transmission from wayside to OCC and other locations for CBTC data traffic and non-CBTC data may use the same switching network.	We shall separate "CBTC data" and "non-CBTC data" into separate lines. Kindly confirm if our understanding is right.	Refer Addendum
259	Part 2	Particular Specification	5.23.10.2	The Network shall be configured such that CBTC traffic will always have priority over other traffic.	We shall separate "CBTC data" and "non-CBTC data" into separate lines. Kindly confirm if our understanding is right.	Refer Addendum
260	Part 2	Particular Specification	6.1.10	The terminal blocks shall provide means for connecting test instruments.	As a means of connecting test instruments, we would like to use an alternative equipment other than the terminal blocks. Is this acceptable?	Terminal block is a generic name for connecting or distributing the cores of cables in an organised manner. The method statement for connecting the Test instruments can be proposed at the appropriate stage, for notice of no objection from the Engineer.
261	Part 2	Particular Specification	6.6.1.17	Bolts, studs, nuts and washers used for electrical connections in all locations shall be manufactured from manganese bronze or plated brass to an approved standard to ensure corrosion resistance.	We would like to use other materials such as stainless steel, given that the material satisfies all the specified requirements. Kindly acknowledge the same.	Alternative solutions to meet Contractual requirements, can be proposed for Engineer's notice of no objection, with required test reports with reference to the applicable standards as well as performance reports from concerned users.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
262	Part 2	Particular Specification	6.6.1.23	The requirements for track maintenance using mechanized equipment shall be taken into account so that the use of such equipment in track maintenance will not impair or damage the vehicle / train detection system and will cause no failures.	This is not the scope of Signalling Contractor.	Signaling design & installation shall such as to protect track side equipments during the operation of various maintenace vehicles (eg: Rail grinding machine)
263	Part 2	Particular Specification	6.6.1.25	Printed circuit boards shall be made of fiberglass epoxy material or an equivalent material and shall be designed and manufactured to an approved standard.	Please elaborate the required standard as mentioned in this clause.	The Contractor may propose the standards to be complied with, for notice of no-objection of the Engineer.
264	Part 2	Particular Specification	6.6.2.1	All connections to the rail (if needed) shall be done using stud and bolt arrangement.	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
265	Part 2	Particular Specification	6.6.2.1	The stud shall be suitably welded (thermo welding or pin brazing technology) to give resistance & corrosion free smooth contact.	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
266	Part 2	Particular Specification	6.6.2.1	The Rail welding material shall confirm to IRS: S103-2004 or the latest	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
267	Part 2	Particular Specification	6.6.2.2	Prior to the selection of the connection, the S&TC Contractor shall demonstrate the reliability and maintainability of its chosen method.	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
268	Part 2	Particular Specification	6.6.2.2	In meeting this criterion, the S&TC Contractor shall provide evidence typically in the form of:	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
269	Part 2	Particular Specification	6.6.2.2	a) Mechanical and electrical test results.	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
270	Part 2	Particular Specification	6.6.2.2	b) Evidence of their reliable service on other Metro Railways.	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
271	Part 2	Particular Specification	6.6.2.2	c) Environmental test results; and	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
272	Part 2	Particular Specification	6.6.2.2	d) Maintainability in terms of removal, refitting and testing.	This is not the scope of Signalling Contractor.	All signalling connection to the rail, if any, shall conform to this
273	Part 2	PS- Appendix 2E	3.7.2	But in ATO/DTO/UTO mode, no delay except for catering system response time shall be provided with	<p>Please confirm if there is a sentence continuation after "with".</p> <p>When in ATP mode, we shall consider a delay of 2 seconds before the application of brake so as to give some time for the driver to react. On the other hand, in ATO / DTO / UTO mode, where there will be no intervention of drivers, is it correct to understand that the delay of 2 seconds need not be considered?</p>	In ATO/DTO/UTO mode the system shall intervene to reduce the speed. Hence the 2 sec window for the human response need not be provided for the system. This shall inturn help the system to operate trains more closer to the design speed in ATO/DTO/UTO mode

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
274	Part 2	PS- Appendix 2E	3.7.3	The safe braking model for calculating the SBD (Safe braking distance) shall identify & consider various systems' response time and Train operator's reaction time.	This will be achieved in compliance with IEEE1474. Kindly acknowledge the same.	The requirements of the Operational speed with respect to the design speed etc as listed in the Addendum needs to be complied with.
275	Part 2	PS- Appendix 2E	3.7.5	c) Maximum civil speed.	Could you please explain the relationship between "Maximum civil speed" and "MSS"?	Maximum Safe speed is defined in Clause 5.8.1.3 of the PS. The Max civil speed is the speed which shall not be exceeded by the train even in an overspeed scenario/ runaway acceleration under the supervision of ATP. The relation between the Max civil speed and MSS is provided in IEEE 1474. Refer the addendum also on this topic (clause 5.8.1.9 of PS)
276	Part 2	PS- Appendix 2E	4.3.1	The contractor shall design the length of track, number of allowable Trains in a section, number of stations, and the number of	Please confirm if there is a sentence continuation after "and the number of".	Refer Addendum
277	Part 2	PS- Appendix 2E	4.3.4	Any change in allowable speed shall produce an audible indication.	Please define the term "allowable speed".	Allowable speed is the recommended speed
278	Part 2	PS- Appendix 2E	4.3.4	If the brake assurance logic does not indicate that the speed is being reduced in accordance with the predetermined speed reduction profile and the actual speed exceeds the permitted speed, a warning must be given to the Train operator to enable him to react and avoid intervention from Train borne ATC equipment at least 2 sec before the intervention of the full service brake until the actual speed does not exceed permitted speed, then the Train operator must be capable of selecting release of full service braking.	In case the driver manages to reduce the running speed to the permissible speed within 2 seconds until the FSB pattern is exceeded, FSB shall not be applied. Please acknowledge the same.	If the Train operator is able to reduce the speed within the limites, then the FSB intervention not required
279	Part 2	PS- Appendix 2E	4.3.5	Trackside and central ATC equipment shall allow the Train to resume operations after a Train splitting is fixed.	What is the driving mode when resuming driving?	Once the train splitting is rectified, the train shall be able to be operated in UTO mode with an authorisation from OCC controller (after checking with RS controller) through ATS terminal.
280	Part 2	PS- Appendix 2E	4.3.7	To recover from a complete on-board failure the Train borne ATC system may either be reset or reinitialized remotely or locally from the Train driving control panel.	Reset or reinitialization can be executed only when the vehicle is stopped at a fixed point. Please confirm if there is no problem with this specification.	Reset/ reinitialization shall be done in stand still. Facility shall be provided to do this remotely from the OCC. the details to be finalised in detail desng phase.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
281	Part 2	PS- Appendix 2E	4.3.9	In wet condition or shall be able to modify the service braking performance in ATP profile calculations under wet/dry reduced adhesion conditions.	In the system that we can provide, wet / dry settings cannot be changed within the section where the line is located or within the range of movement authority (MA). Please confirm if this is acceptable?	The declaration of wet or dry shall be section wise(station to station), from the ATS as in the clause. The declaration shall be able to be done any time by the Operator. It shall be applicable for the section when the train in the section is in stopped condition (normally when the train is stopped at a station, before the section where profile change is to be implemented). The detailed methodology can be finalised as part of the detailed design, keeping these requirements in view.
282	Part 2	PS- Appendix 2E	4.3.9	When in “wet” condition, i.e., whenever or wherever adhesion condition changes, train borne ATC equipment shall adopt a degraded braking performance.	In the system that we can provide, wet / dry settings cannot be changed within the section where the line is located or within the range of movement authority (MA). Please confirm if this is acceptable?	The declaration of wet or dry shall be section wise (station to station), from the ATS as in the clause. The declaration shall be able to be done any time by the Operator. It shall be applicable for the section when the train in the section is in stopped condition (normally stopped at the station, just before the section where the change of profile is to be implemented). The detailed methodology can be decided as part of the detailed design,keeping in view these requirements.
283	Part 2	PS- Appendix 2E	4.5.4	In UTO system the Train shall automatically initiate closing of Train doors and Platform screen doors.	We assume that when the on-board device receives the departure command from ATS, the operation of "Train doors and Platform screen doors" will start. Confirm if our understanding is right.	The train doors and PSD doors shall be initiated at the elapsing of the dwell time, with a predefined time adjusted for the time for the closing duration of doors and the scheduled departure time.
284	Part 2	PS- Appendix 2E	4.7.3	It shall be possible to launch or retrieve trains in UTO mode from/to mainline even when the Depot CBI has failed.	Train operates in UTO mode according to the course set by the interlocking device. Therefore, if the depot CBI breaks down, UTO driving in the depot section is not possible. Please acknowledge the same.	The launch and retrieval of trains until/from the entry/exit of the Depot in UTO mode shall be possible. From the entry/exit of the depot to the stabling lines can be a manual movement
285	Part 2	PS- Appendix 2M	3.4.1	b) ATP, ATO, UTO Mode.	Is DTO not mentioned here intentionally? We understand that DTO also needs to be included here. Kindly confirm the same.	DTO mode is required. Ommission is rectified in Addendum
286	Part 2	PS- Appendix 2M	3.4.2	ATC Bypass switch: A fault switch shall be provided in the cab to deliberately switch off the ATP on-board equipment.	This is out of Signalling contractor’s scope. Kindly confirm.	This rotary switch is provided by RS contractors. The non-resettable counter seperatly for low speed cutout and high speed cutout shall be provided by STC contractor
287	Part 2	PS- Appendix 2M	3.4.2	The actuation of this fault switch will disconnect the ATP and bridge the emergency brake activation circuitry and will be recorded by the train event recorder.	This is out of Signalling contractor’s scope. Kindly confirm.	RS scope, provided for information

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
288	Part 2	PS- Appendix 2M	3.6.1	To deter incorrect use, the manual switch should be protected.	This is out of Signalling contractor's scope. Kindly confirm.	RS scope, provided for information
289	Part 2	PS- Appendix 2M	3.6.1	The isolation of on-board equipment must be recorded by a counter.	This is out of Signalling contractor's scope. Kindly confirm.	The non-resettable counter seperatly for low speed cutout and high speed cutout shall be provided by STC contractor
290	Part 2	PS- Appendix 2M	3.8.2.6	Continuous supervision of maximum permitted speed on the line	Please define "maximum permitted speed"	maximum permitted speed is the maximum operating speed
291	Part 2	PS- Appendix 2M	3.8.2.	Monitoring of maximum permissible Train speed	Please define "maximum permissible Train speed"	maximum permitted speed is the maximum operating speed
292	Part 2	PS- Appendix 2M	3.8.2.11	Stopping point monitoring: The ATP system is to regard the stopping point as a fail-safe stopping point with the target speed of Zero (0) Kmph.	Kindly explain fail-safe stopping point. Does fail safe mean Target speed of 0 kmph?	This is regarding the vital stopping points which needs to be enforced through a SIL 4 system in a fail safe manner. Example will be a stopping point before a signal, if the route ahead is not set/not clear.
293	Part 2	PS- Appendix 2M	3.8.2.19	Releasing doors on both sides at stations having double discharge platforms when the Train has come to a stop within the door opening authorization window.	Is it necessary to open the vehicle doors on both sides of the train at the same time?	Yes, based on the operational requirement, for a double discharge station platform. This should be capable of being incorporated in the time table (either any one side door opening or both sides door opening on station tracks having double discharge platforms).
294	Part 2	PS- Appendix 2M	3.8.2.22	Starting Trains in ATP/ATO/ATB/UTO mode after Turn back operation.	Is DTO not mentioned here intentionally? We understand that DTO also needs to be included here. Kindly confirm the same.	DTO mode is required. Omission is rectified in Addendum
295	Part 2	PS- Appendix 2M	3.8.2.25	If more than one train is in the section and evacuation started in first train, the second train shall have an Emergency brake to stop immediately.	Is the application of the emergency brake of the following vehicle applied manually by the operator who operates the ATS? Or does the CBTC system detect evacuation in the preceding vehicle and automatically apply emergency braking for the following vehicle?	The application shall be by the system with no manual intervention from the Operator.
296	Part 2	PS- Appendix 2M	3.8.2.27	The Train emergency brake shall be automatically tested when the Train is woken up by OCC.	This is out of Signalling contractor's scope. Kindly confirm.	This shall be RS system scope. The signalling system shall facilitate this testing , as part of the automatic/manual wake-up procedure.
297	Part 2	PS- Appendix 2M	3.8.2.30	The ATP shall ensure that the Train will not reach the end of track buffer under worst case failure conditions both in depot as well as on mainline.	The worst case failure conditions mentioned in this clause shall be defined by the Signalling Contractor later at the design stage. Kindly acknowledge the same.	The worst case failure condition is based on the guaranteed emergency braking rate by RS and based on the fail safe system design and performance of signalling system. The close up functionalities as mentioned in the PS shall also be possible duly meeting this clause.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
298	Part 2	PS- Appendix 2M	3.11.1	The Train operator's Man machine interface should be based on the ERTMS Drivers Machine interface (DMI) and should be in accordance with EN 50459-1 to 50459-3 Part	For the driver's MMI, we shall provide the same equipment as the equipment used in the existing lines of our other past projects. Kindly confirm if this is acceptable.	Bid conditions prevails. CMRL cannot comment on the MMI supplied in previous projects without the specification verified. Alternative specifications are subject to the satisfaction of the Engineer regarding their equivalence as well as previous performance record.
299	Part 2	PS- Appendix 2M	3.11.1	1 to 3 - Ergonomic arrangements of ERTMS/ETCS information, EN TS 50459-5: Part 5 Symbols, EN TS 50459-6: Part 6 Audible information.	For the driver's MMI, we shall provide the same equipment as the equipment used in the existing lines of our other past projects. Kindly confirm if this is acceptable.	Bid conditions prevails. CMRL cannot comment on the MMI supplied in previous projects without the specification verified. Alternative specifications are subject to the satisfaction of the Engineer regarding their equivalence as well as previous performance record.
300	Part 2	PS- Appendix 2M	3.11.2	The Driver's MMI Function shall provide the Train operator with the following information as a minimum but not limited to:	For the driver's MMI, we shall provide the same equipment as the equipment used in the existing lines of our other past projects. Kindly confirm if this is acceptable.	Bid conditions prevails. CMRL cannot comment on the MMI supplied in previous projects without the specification verified. Alternative specifications are subject to the satisfaction of the Engineer regarding their equivalence as well as previous performance record.
301	Part 2	PS- Appendix 2M	3.11.2	d) Speed order	Please define the terms "Speed order" & "Target speed".	Speed order is generic to all type of speed information on the MMI
302	Part 2	PS- Appendix 2M	3.11.2	x) Advice speed for inter station regulation.	Please explain in detail the "Advice speed for inter station regulation".	Advice speed is the speed the train operator to follow, which is derived by the system duly considering the intervention by the ATR system to optimise the speed profile to optimise the energy consumption by consuming the run time reserve.
303	Part 2	PS- Appendix 2M	3.11.2	cc) ESS/ESP operated alarm	Does ESS mean Emergency Stop Switch? If not, kindly give us the correct abbreviation.	ESS is emergency stop switch inside Rolling stock. No ESS is envisaged in this project
304	Part 2	PS- Appendix 2M	3.12.1.1	The warning curve Issuing of an audible warning The service brake curve Issuing of an audible warning Activation of the visual display and application of the service brake The emergency brake curve Issuing of an audible warning (continuous) Activation of the visual display, application of the emergency brake	If there are any specific sound sources required, kindly share the information with Signalling contractor. The current system provided by us, uses three types of ERTMS standard warning sounds and we intend to use the same warning sounds. Kindly confirm if this is acceptable.	The warning sound shall be from a buzzer in the operator desk which is part of signalling system. This is a standard requirement in all metro projects. In the design phase the details can be finalised

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
305	Part 2	PS- Appendix 2M	3.12.1.2	If the actual speed exceeds the permitted speed, a warning must be given to the Train operator to enable him to react and avoid intervention from Train borne ATC equipment at least 2 seconds before the intervention of the full- service brake until the actual speed does not exceed permitted speed, then the Train operator must be capable of selecting release of full-service braking.	In case the driver manages to reduce the running speed to the permissible speed within 2 seconds until the FSB pattern is exceeded, FSB shall not be applied. Please acknowledge the same.	If the Train operator is able to reduce the speed within the time limit, then the FSB intervention not required
306	Part 2	PS- Appendix 2M	3.12.2.2	Then, the Train operator has a few seconds to react and go back below the warning speed.	The train operator shall respond within 2 seconds. Please confirm if this is acceptable.	Time can be decided in detail design. The requirement is standard accross many metro. The values adopted in other metros can be proposed by the STC contractor in design phase
307	Part 2	PS- Appendix 2M	3.12.3.1	i) Any other information.	This shall be mutually decided during the detail design stage.	Yes
308	Part 2	PS- Appendix 2M	3.12.5	Testing of ATP equipment: The system shall have the facility of self-testing the ATP equipment to verify proper operation and functioning of ATC inputs and outputs including the testing of adequacy of the braking system so as to complete pre-departure tests from depot to main line.	"Appropriateness of the braking system" shall be notified from TCMS to the Signalling equipment.	The test shall be facilitated by the signalling system. The feed back about the adequacy of the brakes shall be obtained fromTCMS system. Necessary interface shall be devised for the same
309	Part 2	PS- Appendix 2M	4.1	The system shall be suitable for working on sections having 25 kV AC traction and where Cars will be hauled by GTO/IGBT based VVVF controlled three phase Induction motors.	This is not the scope of Signalling Contractor.	The signalling system shall be suitable of working in this environment. Hence within the scope of STC contractor.
310	Part 2	PS- Appendix 2M	5.1	The System shall conform to the reliability & safety standards of CENELEC Standards EN 50126, EN 50128 & EN 50129.The system shall conform to Safety Integrity Level-4 of the relevant CENELEC standards.	We shall comply with IEC and not EN standard. Kindly confirm if this is acceptable.	Refer Addendum
311	Part 2	PS- Appendix 2M	5.2.1	Software used in ATP system should have been developed in conformity with a software engineering standard EN 50126, EN 50128, EN 50159-1&2, & EN 50129 issued by European Committee for Electro technical Standardization (CENELEC) with special relevance to safety critical applications.	We shall comply with IEC and not EN standard. Kindly confirm if this is acceptable.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
312	Part 2	PS- Appendix 2M	5.2.2	The communication provided between various ATC equipments and between ATC equipment and interlocking system shall comply with the requirements for transmission of vital safety information conforming to CENELEC standards EN 50159-1 & 2 and IEC	We shall comply with IEC and not EN standard. Kindly confirm if there is no problem with this specification.	Refer Addendum
313	Part 2	PS- Appendix 2M	5.3.2	The System shall be validated to Safety integrity level - 4 of the relevant CENELEC standards or other mentioned standards.	The equipment that meet SIL4 are CBTC wayside equipment, CBTC on-board equipment, interlocking equipment, and axle counter only. Kindly acknowledge the same and let us know if there are any concerns.	The Bid conditions prevail.
314	Part 2	PS- Appendix 2M	5.4.1	Any fault in the speed measurement system shall either be detected as a fault or result in a higher than actual speed indication.	The prior requirement that the wheel diameter is properly maintained by the operator and the wheel diameter setting value is properly set by the operator is assumed to have been fulfilled. Kindly confirm the same.	The wheel diameter entry to the system shall be implemented in a fail safe manner complying to the clause 5.4.1
315	Part 2	PS- Appendix 2M	5.4.2	The speed measurement system shall be able to measure the true speed of the Trains and there should be no measurement errors due to wheel slip or slide.	Measurement errors may occur. But our Signalling system can guarantee safety in such instances. So, there will not be any problems regarding safety. Kindly confirm if this is acceptable.	Apart from safety, the stopping accuracy also must be met
316	Part 2	PS- Appendix 2M	6.7	The main Radio access points and the redundant radio access points shall be generally provided on opposite side of the viaduct.	In order to improve the wireless propagation environment, the Wayside Radio Set may not be installed at the designated access points. Kindly confirm if this specification is acceptable.	The contractor can propose the way side wireless access point locations and other transmission related parameters duly considering the performance and availability requirements of the signalling and VMS system.
317	Part 2	PS- Appendix 2M	9.3.3	Event logging facility for minimum 100000 events shall be provided for the Wayside ATC equipments.	Please define the term "event" specified in this clause.	Event can be any failure or manual intervention or any untoward/unanticipated incident , according to the design of the equipment.
318	Part 2	PS- Appendix 2M	9.3.4	The contractor shall provide Laptop with debugging software for both On-board and Wayside ATC equipment to Employer for failure diagnosis at site.	We shall provide tools for failure diagnosis. However, the tools for fault diagnosis do not have the ability to debug software. Kindly acknowledge the same.	If the scheduled and corrective maintenance by the Operator doesn't warrant a debugging of the software, then debugging software need not be provided with.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
319	Part 2	PS- Appendix 2M	10.4.1	h) In case of equipment that has been tested and approved for unconditional and unrestricted use of passenger operation on any Metro railway by the concerned Metro railway administration, the Contractor should submit complete details of test carried out, test results and approval certificate issued by concerned railway administration.	Please elaborate the purpose of this request.	The contractor shall submit the documents as sought in the clause. This is for the Operator for understanding the details of the product used and the same shall be used as a cross reference by the Operator (CMRL) for obtaining approval for the signalling system from the concerned authorities. The same requirement will apply incase of venddor approvals for major components, as decided by the Engineer.
320	Part 2	PS- Appendix 2P-1	2.1.7	RS Contractor shall provide equipment, software, functionalities etc. of the RS part of the Train to meet the requirement of Interface.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Scope of respective RS contractor. The relavant details for the RS contractor to prepare the RS software to meet the Interface requirement needs to be made available by the Signalling contractor and an agreement reached in the Interface forum.
321	Part 2	PS- Appendix 2P-1	2.1.8	The removal of traction power and the correct application of brakes in train shall be the responsibility of RS Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The clause is self explanatory
322	Part 2	PS- Appendix 2P-1	2.1.9	Parking brakes shall be provided by RS Contractor. The parking brakes shall be capable of holding a fully loaded stationary train on a 4% gradient under all track conditions, indefinitely.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The clause is self explanatory, the Parking brake is provided by the respective RS system. The STC system shall apply the Parking brake in appropriate situations (eg: sleep). The details to be finalised as a part of the Interface design.
323	Part 2	PS- Appendix 2P-1	2.1.10	Hence, there is no dedicated operator cabins in the train.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The saloon and Cab are designed by respective RS contractor. Not scope of STC contractor. For the space proofing and planning of layouts for equipments, cabinets , taking into account the requirements of passengers, STC contractor shall provide the dimensions and other requirements for Train borne equipments. An agreement needs to be reached in the interface forum, covering these issues.
324	Part 2	PS- Appendix 2P-1	2.1.11	An Emergency operator's desk shall be provided inside both the extreme ends of the train.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	DMI in the desk is STC scope
325	Part 2	PS- Appendix 2P-1	2.1.11	This emergency operator's desk shall be suitable for operation of train in GoA1, GoA2, GoA3, GoA4 (UTO) and other degraded modes.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope. However, suitable interface co-ordination needs to be maintained by S&TC Contractor, for locating, installation & testing of S&TC equipments that are housed in the Emergency Operator's desk.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
326	Part 2	PS- Appendix 2P-1	2.1.11	In view of the passage for Emergency detrainment door of train's front mask and rear mask, the emergency operator's desk and the train controls shall be suitably designed on the left side corner area of the train ends.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Primarily RS scope. STC contractor shall provide the requirements for the DMI and liase with the RS contractor for appropriately positioning the DMI meeting all requirements.
327	Part 2	PS- Appendix 2P-1	2.1.11	Any other alternative design shall also be proposed by the RS Contractor, subject to approval from CMRL RS division.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope. Relavant inputs shall be provided by STC contractor, if RS contractor is preparing any alternative design.
328	Part 2	PS- Appendix 2P-1	2.1.11	During UTO operation, the Emergency operator's desk shall be concealed by aesthetically matching covers (material, color and texture matching with car interiors).	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope
329	Part 2	PS- Appendix 2P-1	2.1.11	The covers shall have sufficient structural strength, shall be vandalism proof.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope
330	Part 2	PS- Appendix 2P-1	2.1.11	compatible with fire performance standards and suitably locked & secured.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope
331	Part 2	PS- Appendix 2P-1	2.1.11	During the non UTO operation, only authorized personnel can open the covers and operate the train which shall be recorded as an event and shall be transmitted to the RSC consoles of OCC, BCC and DCC.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The transmission of data to OCC and displaying it in ATS terminal is the scope of STC contractor
332	Part 2	PS- Appendix 2P-1	2.1.11	All the panels of emergency operator's desk shall be mounted such that, there shall be easy access to the internal equipment.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope. However , necessary interface co-ordination needs to be maintained, regarding S&TC equipment located in the Emergency Operator's desk.
333	Part 2	PS- Appendix 2P-1	2.1.11	There shall not be requirement to remove any rigid mountings to access any equipment inside the emergency operator's desk.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope. However , necessary interface co-ordination needs to be maintained, regarding S&TC equipment located in the Emergency Operator's desk.
334	Part 2	PS- Appendix 2P-1	2.2.4	The costs for all interface design and testing works shall be deemed to be included in the Contract sum of respective contracts regardless of the actual extent of effort required or expended by the Contractor.	Additional costs shall be charged upon receiving a request from CMRL that is outside the scope of the contract. Kindly acknowledge the same.	Bid conditions will prevail.
335	Part 2	PS- Appendix 2P-1	2.2.7	RS Contractor shall provide necessary support and modifications in their system as part of the contract, to resolve all pending or interface related issues arising during the operation of trains which are under the scope of the contract till completion of STC Contractor's defect liability period/defect notification period for the respective corridors and inter-corridors of the CMRL Phase 2. The cost of these support and modifications shall be part of the actual cost of the RS contract.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	This provision is to enable the S&TC Contractor to fulfil all post-completion tests as well as DLP obligations,post-completion of respective stage of commissioning, as per S&TC Contract and to take care of modifications related to alarms and commands for UTO related operation till the end of DLP of Stage 7.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
336	Part 2	PS- Appendix 2P-1	2.2.10	2. Separate Interface will be required to be done by STC and RS contractors with the AWP supplier for ATO & UTO modes.	Please provide the details of Individual Interface with the AWP supplier.	Refer PS-Appendix 2P-10 for details
337	Part 2	PS- Appendix 2P-1	2.2.11	Emergency brake application validation at slow speed (less than or equal to 25 kmph) shall be achieved as a part of the wake up procedure as finalized by the STC contractor.	The on-board device shall receive the verification result of the application of the emergency brake at low speed (25 km / h or less) from the TCMS. Kindly confirm if our understanding is right.	The detailed procedure shall be part of detailed interface. The STC system shall facilitate/conduct the test and carry the outcome of the test from the TCMS to ATS for providing the readiness status of the train and subsequent action. The details to be finalised in the interface design finalisationphase.
338	Part 2	PS- Appendix 2P-1	2.2.11	RS contractor shall make sure that the equipment of train shall comply with this procedure.	This is out of Signalling contractor's scope. Kindly confirm.	Clause is self explanatory
339	Part 2	PS- Appendix 2P-1	2.2.13	RS, PSD and Telecommunications	This is out of Signalling contractor's scope. Kindly confirm.	The OMPD shall be prepared by STC contractor as lead.
340	Part 2	PS- Appendix 2P-1	2.2.13	Contractor will provide required inputs to the STC Contractor in preparation of the document.	This is out of Signalling contractor's scope. Kindly confirm.	The OMPD shall be prepared by STC contractor as lead.
341	Part 2	PS- Appendix 2P-1	2.2.13	The traction contractors and Tunnel Ventilation Contractors will also assist STC Contractor in preparation of the documents.	This is out of Signalling contractor's scope. Kindly confirm.	The OMPD shall be prepared by STC contractor as lead.
342	Part 2	PS- Appendix 2P-1	2.2.13	CMRL will provide necessary inputs such as standard operating procedure.	This is out of Signalling contractor's scope. Kindly confirm.	The OMPD shall be prepared by STC contractor as lead.
343	Part 2	PS- Appendix 2P-1	2.4.33	RS contractor shall supply and install the hardware and software for Rolling Stock Controller (RSC)'s workstation in OCC, BCC and in DCC of each depot in CMRL Phase 2 as a part of Real Time Remote Diagnostic Monitoring System (RTR- DMS).	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The data connectivity for these works tations is in the scope of STC contractor.
344	Part 2	PS- Appendix 2P-1	2.4.33	The GUI of this RSC display shall be similar to the Train TCMS-DDU.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope
345	Part 2	PS- Appendix 2P-1	2.4.34	The RSC workstation (provided by RS contractors) shall be connected to the Central server data placed in OCC supplied by RS contractor as a part of Real Time Remote Diagnostic Monitoring System (RTR-DMS).	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope. The network connectivity shall be provided by the STC contractor. Details to be worked out in the Interface forum as a part of detailed interface design.
346	Part 2	PS- Appendix 2P-1	2.4.34	RS contractor shall interface with Signaling contractors for the installation and network configuration for this RSC console in OCC, BCC and in DCCs of all depots of CMRL Phase 2.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The data connectivity, position for the work station in the desk, console layout etc for this workstation is in the scope of STC contractor.
347	Part 2	PS- Appendix 2P-1	2.4.34	Any other GUI(s) in OCC/BCC/DCC except RSC console shall not be in the scope of RS contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	work stations and its GUI to be provided by STC contractor is in PS-Appendix 2C and 2D

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
348	Part 2	PS- Appendix 2P-1	2.4.34	RS contractor shall ensure to connect the RSC work station with the network provided by STC contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Network connectivity to be provided by STC contractor
349	Part 2	PS- Appendix 2P-1	2.4.34	The installation of the RSC work station, the RTR-DMS Server, its wiring to power connection and data switch of signalling is the responsibility of RS contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The STC contractor shall offer power connection and data connection from STC network switch for the work stations and servers. Connection from these Interface points to the work station and servers are the responsibility of RS contractor. The matter needs to be co-ordinated through the interface forum.
350	Part 2	PS- Appendix 2P-1	2.4.35	The RS Contractor shall conduct necessary interface with Signalling contractors for this purpose and RS contractor shall be responsible for complete set up, testing, commissioning and satisfactory working of the system until during train warranty period.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The data connectivity,Power supply provision, position for the work station in the desk layout etc for this workstation is in the scope of STC contractor.
351	Part 2	PS- Appendix 2P-1	2.4.36	Necessary data compression techniques shall be adopted by the RS contractor to optimize the data network bandwidth requirement.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is selfexplanatory
352	Part 2	PS- Appendix 2P-1	2.4.37	The RTR-DMS system shall utilise the same allotted band width for uploading files like multimedia advertisements from the RTR-DMS server to the on-board equipment like passenger display systems.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is selfexplanatory
353	Part 2	PS- Appendix 2P-1	2.4.38	Ground based hot axle box detection for monitoring of axle box temperature shall be provided in mainline by Rolling Stock Contractor and shall be installed specific to each corridor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope but the communication network path from the station switch to the OCC shall be provided by the STC contractor.
354	Part 2	PS- Appendix 2P-1	2.4.38	The ground equipment shall be provided by RS Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope but the communication network path from the station server to the OCC shall be provided by the STC contractor.
355	Part 2	PS- Appendix 2P-1	2.4.38	The server for storage of the information shall be placed by RS contractor at the nearest station's Telecom Equipment Room.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope but the communication network path from the station server to the OCC shall be provided by the STC contractor.
356	Part 2	PS- Appendix 2P-1	2.4.38	This ground based hot axle detection system shall be integrated with RTR-DMS by the RS contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope but the communication network path from the station server to the OCC shall be provided by the STC contractor.
357	Part 2	PS- Appendix 2P-1	2.4.38	The power from UPS as well as network cabling from the equipment to the Signalling network switch is the responsibility of the RS contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope but the communication network path from the station server to the OCC shall be provided by the STC contractor.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
358	Part 2	PS- Appendix 2P-1	2.4.39	RS Contractor shall provide CCTV cameras in the trains which will cover cab, saloon, front of train, rear view camera, area for passenger-initiated alarm, detainment door, track, OHE, pantograph and platforms of each station etc. The CCTV cameras video shall be recorded in suitable NVR on board train for a minimum seven continuous days of recording.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope but the connectivity and system for displaying the video streams in OCC,BCC,SCR,SCC, DCC stations etc is in the scope of STC contractor
359	Part 2	PS- Appendix 2P-1	2.4.41	The hardware/software interface shall be furnished and installed by RS Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The hardware and software for transmission of this video streams from the port of Rolling stock onboard to display it in OCC, BCC,DCC, SCC, stations is in the scope of STC contractor
360	Part 2	PS- Appendix 2P-1	2.4.41	The CCTV signal shall be provided by RS Contractor at a suitable port on board to STC Contractor for transmission.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The hardware and software for transmission of this video streams from the port of Rolling stock onboard to display it in OCC, BCC,DCC, SCC, stations is in the scope of STC contractor
361	Part 2	PS- Appendix 2P-1	2.4.47	Coupling of trains for call-on or push out shall normally be performed in RM mode.	Coupling of trains for call-on or push out cannot be controlled in ATP / ATO / DTO / UTO mode. Kindly confirm if this specification is acceptable.	Bid condition prevails
362	Part 2	PS- Appendix 2P-1	2.4.52	In UTO mode, if train gets delocalized, the STC system should use memorized location so that train can move with less speed until next beacon.	Our STC system cannot use memorized location but the train can be localized when the train reaches the next beacon. Please confirm if this specification is acceptable.	For the train getting delocalized because of a momentary external failure/ breakage, shall be able to resume the UTO operation with full speed once the interruption ceases.
363	Part 2	PS- Appendix 2P-1	2.4.53	Light Sleep and Deep Sleep functions shall be implemented.	Please explain "Light sleep functions" and their purpose. Please explain "Deep sleep functions" and their purpose. Kindly share the difference between the above two functions.	The light sleep and deep sleep are two sleep modes available. The list of systems which shuts down/stand by varies in these two modes. The detail list needs to be finalised in detail design phase, jointly with the RS Contractor.
364	Part 2	PS- Appendix 2P-1	2.4.54	In manual mode like Cut out/RM/ROS modes, Rolling Stock Contractor shall generate a trigger command for Neutral section detection.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause self explanatory
365	Part 2	PS- Appendix 2P-1	2.4.55	EB shall be applied on detection of obstruction by the Obstruction Deflection Device (ODD).	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	This function is to be co-ordinated with the RS Contractor in the detailed design phase. The trigger for the event will be provided by RS and follow-up action is S&TC responsibility.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
366	Part 2	PS- Appendix 2P-1	2.4.59	During UTO, DTO, ATO & ATP operation, Signaling & train control system shall be able to detect roll back of train at any location of CMRL network when train roll backs.	Please explain in detail "CMRL network".	In this context CMRL network means Corridor 3,4 and 5, inter-corridor lines as well as all depots and sidings
367	Part 2	PS- Appendix 2P-1	2.4.61	The car wise passenger load of the train shall be continuously communicated to the signalling system by the rolling stock system, in a continuous manner with a defined level of accuracy (less than 3% deviation).	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The STC system shall receive the information and transmit to ATS for enabling various functionalities using this data as in the PS
368	Part 2	PS- Appendix 2P-1	2.4.62	The external ambient air temperature of the train shall be continuously communicated to the signalling system by the rolling stock system.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The STC system shall receive the information and transmit to ATS for enabling various functionalities using this data as in the PS
369	Part 2	PS- Appendix 2P-1	2.4.63	However, RS contractor shall provide a back-up software logic in train for operation of VCBs during all modes of train operation while passing in Neutral section region.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause self explanatory
370	Part 2	PS- Appendix 2P-1	2.4.63	The VCB operation facility by signalling shall work in UTO, DTO, ATO, ATP mode of operation irrespective of the classification of train in ATS (time tabled, non-time tabled, with/without train ID, passenger-non-passenger etc)	Could you please explain what kind of equipment "VCB operation facility" is?	The clause 2.4.63, read in completion, is self explanatory
371	Part 2	PS- Appendix 2P-1	2.5.1	RS, STC, Telecom and PSD contractors shall jointly setup an integrated test bed at CMRL premise to arrange for the integration testing of various subsystems, as a minimum but not limited to ATS, ATO, on-board CCTV management system by signalling contractor, On-board passenger information system, on-board driver display units, TCMS, On-board NVR, RTR-DMS by RS contractors, station passenger information systems etc of the Telecom contractors.	The Specific equipment to be provided by the signal manufacturer will be discussed separately.	Refer Particular specification of ASA04 bid Clause 11.5 for more information
372	Part 2	PS- Appendix 2P-1	2.5.1	RS contractors shall provide necessary simulators to simulate various failure and operational scenarios in the TCMS pertaining to the Interface data.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	CLause self explanatory
373	Part 2	PS- Appendix 2P-1	2.5.5	RS contractor shall complete the train's static & dynamic testing, reports to be approved by CMRL RS and further RS contractor shall hand over the train to STC contractor to conduct the STC portion of tests in train.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The preparation of schedules & format of associated documentation for hand over of Trains for S&TC testing, Joint T&C procedure documentation etc shall be taken up by STC contractor, through the interface forum, as the lead partner.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
374	Part 2	PS- Appendix 2P-1	2.5.5	RS contractor shall highlight any other required interface testing in the test plan.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	STC contractor shall jointly finalise details of all interface tests , make arrangements for the same from S&TC side and attend the testing
375	Part 2	PS- Appendix 2P-1	2.5.5	4 and corridor 5 and their extensions if any.	In case of extending the projects, separate contracts will be required. Please acknowledge the same.	Refer Particular conditions of the bid document for more information
376	Part 2	PS- Appendix 2P-1	2.6.2	RS Contractor shall provide traction and braking characteristics of the actual vehicles.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
377	Part 2	PS- Appendix 2P-1	2.6.2	The continuous controllability and linearity in the brake system shall be provided by the RS contractor in electrical as well as air braking period, including blending period for the STC contractor to achieve higher stopping accuracy.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
378	Part 2	PS- Appendix 2P-1	2.6.3	In case of isolation of any brake system or bogie/car, RS Contractor shall furnish requisite information to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Signalling system shall be capable of receiving this signal and act on it. The details and various scenarios shall be drafted as a part of Interface by both the contractors.
379	Part 2	PS- Appendix 2P-1	2.6.3	However, Guaranteed Emergency Brake Rate (GEBR) shall never be compromised.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
380	Part 2	PS- Appendix 2P-1	2.6.3	Safe train speed 90 kmph	Does Safe train speed refer to MSS here in this clause?	Safe speed of the train is max allowable speed of the train
381	Part 2	PS- Appendix 2P-1	2.6.3	2. For the items marked *, the maximum timings are for a brake application from initiation of brake application command from BECU to 90% of full Brake	There are no sentences marked with * mark. Kindly confirm if our understanding is right.	This is for the row below the "jerk rate"
382	Part 2	PS- Appendix 2P-1	2.6.5	RS Contractor shall furnish the guaranteed braking rate at the normal braking efficiency, including brake deterioration to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
383	Part 2	PS- Appendix 2P-1	2.6.5	RS Contractor shall also provide the speed Vs acceleration curves and speed Vs tractive effort curves, for all passenger loading conditions.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
384	Part 2	PS- Appendix 2P-1	2.6.6	RS Contractor shall furnish as minimum Rolling Stock parameters to be used by STC Contractor for designing the CBTC system, as set out in the below section (Interface – Division of Responsibility).	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
385	Part 2	PS- Appendix 2P-1	2.6.6	RS Contractor shall also furnish a reasonable tolerance band for the identified performance parameters.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
386	Part 2	PS- Appendix 2P-1	2.6.6	RS Contractor shall ensure that all the trains supplied perform within the tolerance band.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
387	Part 2	PS- Appendix 2P-1	2.6.7	RS Contractor shall provide optimized energy efficient run curve pattern of Train's traction system to STC Contractor for incorporation in the ATO/UTO mode of operation.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory. STC contractor shall use this for the energy optimization of ATR
388	Part 2	PS- Appendix 2P-1	2.6.7	All associated information as requested by STC Contractor shall be duly handed over by RS Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
389	Part 2	PS- Appendix 2P-1	2.8.3	2.8.3 The DMI shall display following text messages in the event of EB for the below. It shall incorporate as a minimum, but need not be limited to the following information:	Instead of displaying the causes as mentioned from a) ~ i), our system shall display the equipment that caused the Emergency brake. Kindly confirm if this specification is acceptable.	Bid conditions will prevail. It may be noted that this is a minimum requirement and not an exhaustive list. Hence the equipment causing the EB may also be listed.
390	Part 2	PS- Appendix 2P-1	2.8.3	e) EB: safety immobilisation not obtained	Please explain what does "safety immobilization" & "safety immobilization not obtained" mean?	This will be decided as a part of the detailed interface design.
391	Part 2	PS- Appendix 2P-1	2.9.1	Open Doors Push-Buttons Right Side in PM / RM xvi.	Kindly explain "PM" and "RM".	PM: Protective manual mode (ATP) RM: Restricted manual mode
392	Part 2	PS- Appendix 2P-1	2.9.1	Creep mode - low speed velocity relay – Speed range need to be defined xii.	Kindly explain "Creep mode".	Creep and Jog functionality are the same.
393	Part 2	PS- Appendix 2P-1	2.9.1	Motoring Demand Relay in AM xvi.	It may not be a relay interface, so the details shall be decided at the design stage.	The details can be decided in interface design phase
394	Part 2	PS- Appendix 2P-1	2.9.1	Motoring/Braking command in AM - Analogue Output xvii.	It may not be a relay interface, so the details shall be decided at the design stage.	The details can be decided in interface design phase
395	Part 2	PS- Appendix 2P-1	2.9.1	Braking Demand Relay in AM xviii.	It may not be a relay interface, so the details shall be decided at the design stage.	The details can be decided in interface design phase
396	Part 2	PS- Appendix 2P-1	2.9.1	Light Braking Demand activation in AM mode xix.	It may not be a relay interface, so the details shall be decided at the design stage. Please explain what is meant by "Light Braking".	The details can be decided in interface design phase
397	Part 2	PS- Appendix 2P-1	Brake	Brake Pressure xxvii.	This is not the scope of Signalling contractor. Kindly confirm the same.	Refer Addendum
398	Part 2	PS- Appendix 2P-1	2.10.1	Independent 110V DC power supply circuits, including positive and negative poles (at least three numbers) for ATC Equipment shall be provided by RS Contractor and there shall be no physical or electrical links between these power supply circuits.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	For power supply requirement, STC contractor shall arrive at an agreement with RS contractor in Interface forum. RS contractor has to provide the Power supply for ATC cabinet.
399	Part 2	PS- Appendix 2P-1	2.10.2	RS Contractor shall provide dedicated earthing arrangements for the train borne ATC equipment.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory. The details of the earthing requirement to be provided by STC contractor and to be agreed with the RS Contractor, through the interface forum.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
400	Part 2	PS- Appendix 2P-1	2.11.2	STC contractor shall be responsible for providing all data and training of RS Contractor staff in all aspects of ATC installation and verificaiton wherever applicable.	We understand that the Signalling Contractor shall provide only the drawings of train-borne equipment to the RS contractor. Kindly confirm the same.	Apart from the drawing, the STC contractor shall support and train RS contractor staff on all aspects of installation and verification of train borne ATC equipments installation, as required . The details need to be agreed through the interface forum.
401	Part 2	PS- Appendix 2P-1	2.11.2	Necessary training material shall be provided to CMRL RS and RS contractor for this purpose.	We understand that the Signalling Contractor shall provide only the drawings of train-borne equipment to the RS contractor. Kindly confirm the same.	Bid conditions will prevail.
402	Part 2	PS- Appendix 2P-1	2.11.5	RS Contractor shall be responsible for installing wiring and equipment and STC contractor shall conduct the confirmation testing on each car at the factory itself.	Signal manufacturers shall carry out confirmation tests only for the prototype set at the factory. Tests for other trains shall be carried out by the vehicle manufacturer.	Please refer to the table on Key Dates in Part 3-Particular Conditions. Every train needs to be jointly tested at the car builder's factory by S&TC Contractor and cleared , prior to its despatch to the Depot. This joint checking will also include checking correctness of installation & associated test records submitted by the RS Contractor, apart from conducting the required tests.
403	Part 2	PS- Appendix 2P-1	2.11.6	The test reports subsequently shall be issued jointly by RS, STC & Comm contractors.	Please confirm if the lead contractor will be the Rolling Stock Contractor.	As per App 2P-1, STC contractor is the lead contractor.
404	Part 2	PS- Appendix 2P-1	2.11.7	RS Contractor shall provide facilities for comprehensive static and interface tests between Rolling Stock, Signalling and Telecommunications systems at his premises.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Please refer to the table on Key Dates in Part 3-Particular Conditions. Every train needs to be jointly tested at the car builder's factory by S&TC Contractor and cleared , prior to its despatch to the Depot. This joint checking will also include checking correctness of installation & associated test records submitted by the RS Contractor, apart from conducting the required tests.
405	Part 2	PS- Appendix 2P-1	2.11.9	RS Contractor shall provide the requisite manpower to monitor and/or implement the modifications on Rolling Stock for work involving scope as identified in above clause.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory
406	Part 2	PS- Appendix 2P-1	2.12.1	Regarding electromagnetic interference, STC Contractors shall provide a list of working frequencies and other sensitive requirements to the RS Contractor, to enable RS Contractor to avoid such frequency bands in design, and to provide devices to isolate the source of emission wherever required.	Whether or not to submit "a list of working frequencies and other sensitive requirements" will be discussed and decided at the interface meeting between STC contractor and RS contractor. Kindly acknowledge the same.	The details on the working frequency can be decided in Interface forum
407	Part 2	PS- Appendix 2P-1	2.12.3	RS Contractor shall ensure that the return current in the track at the specified frequencies does not exceed the value specified by STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The limiting values to be provided by STC contractor, if applicable. This needs to be resolved through the interface forum.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
408	Part 2	PS- Appendix 2P-1	2.12.6	The cable ducts shall be earthed at notionally at every 2 m and also at the ends and shall be in accordance with accepted international practices.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS scope. The earthing methodology to be agreed upon by both Contractors through the interface forum.
409	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall coordinate with STC Contractors in order to achieve the functional and operational requirements of the system.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The achievement of functional and operational requirements involving interface functionalities are in the scope of both contractors
410	Part 2	PS- Appendix 2P-1	2.13.1	To provide space in the vehicle design for fixing and installation at the manufacturer's facility, by the RS Contractor, under the supervision of STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Refer to the reply for the query mapped to clause 2.11.2. The space proofing shall be jointly agreed. The same needs to be inspected in the prototype test including the access of STC equipments for ready maintenance. The arrangement shall be ensured in all subsequent trains.
411	Part 2	PS- Appendix 2P-1	2.13.1	The speed measuring sensor(s) and odometer(s) for non-ATC mode will be provided by RS Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Clause is self explanatory. In the scope of RS
412	Part 2	PS- Appendix 2P-1	2.13.1	To provide space in the vehicle design for fixing and installation at the manufacturer's facility, by the RS Contractor, under the supervision of STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Refer to the reply for the query mapped to clause 2.11.2. The space proofing shall be jointly agreed. The same needs to be inspected in the installation completion tests of all trains.
413	Part 2	PS- Appendix 2P-1	2.13.1	To provide train lines and Ethernet Connection as per STC Contractors requirement.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The requirement of STC contractor needs to be put forth in interface forum and the design of RS to accomodate these requirements needs to be verified by STC contractor. Implementation is in RS scope
414	Part 2	PS- Appendix 2P-1	2.13.1	To provide CPS to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractor heading.
415	Part 2	PS- Appendix 2P-1	2.13.1	Furnish the requirement To review the Cable	Please explain what "Cable Principle Scheme" means.	Cable principle scheme describes the connectivity between the Train borne signalling to all peripheral equipments og signalling. This also describes connectivity of STC system to TCMS and other systems of Rolling stock. This may cover the type of cable, type of connectors,number of cores, cable supporting arrangements,necessary clearances for EMC etc
416	Part 2	PS- Appendix 2P-1	2.13.1	To provide earthing scheme to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
417	Part 2	PS- Appendix 2P-1	2.13.1	Provide the on board data logger TCMS.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
418	Part 2	PS- Appendix 2P-1	2.13.1	All input and output signals shall be logged in TCMS.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
419	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall co- ordinate with the STC Contractor to agree on levels and protocols for interface signals.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
420	Part 2	PS- Appendix 2P-1	2.13.1	There shall be no delay in braking from RS during the transition from ED to friction brake at slow speed.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading. An agreement covering this, is to be reached through the interface forum.
421	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall comply and meet the requirements for UTO.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	RS contractors will meet the requirement of UTO from RS system side. STC contractor shall meet from STC system side. On all interface points,an agreement needs to be reached through the interface forum.
422	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor to synchronize its clock with the system master clock.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.STC system shall provide the master clock time to the RS system. An interface agreement needs to be reached, covering this.
423	Part 2	PS- Appendix 2P-1	2.13.1	Shall provide for necessary hardware interface, display for on-board P.A and PIS system inside the cars.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
424	Part 2	PS- Appendix 2P-1	2.13.1	Suitable ventilation shall be provided by the contractor for the backside area of the console.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The necessary ventilation requirement shall be furnished to the RS contractors by STC contractor in the design phase through the interface forum
425	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor to provide conditioning air from the saloon to all relevant signalling installations to maintain a nominal temperature of 25°C.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The necessary ventilation and air coonditioning requirement shall be furnished to the RS contractors by STC contractor in the design phase through the interface forum
426	Part 2	PS- Appendix 2P-1	2.13.1	Conditioned air ventilation shall be provided S.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The necessary ventilation and air coonditioning requirement shall be furnished to the RS contractors by STC contractor in the design phase through the interface forum
427	Part 2	PS- Appendix 2P-1	2.13.1	No Item STC Contractor RS Contractor by the Contractor for the console.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The question is wrongly reproducing the Interface clause.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
428	Part 2	PS- Appendix 2P-1	2.13.1	STC Contractor shall advise EMI/EMC plan and test reports for ATP/ATO/UTO equipment to RS Contractor at early date.	We shall provide the necessary input and advise but not the EMI/EMC plan itself. Please confirm if our understanding is right.	As part of the interface process, S&TC Contractor has to advise the EMI/EMC limits of various S&TC equipment, as also any special installation requirements/limits from the EMI/EMC point of view. The RS Contractor needs to take these requirements into account and provide the documentation for the compliance of the STC requirements. Both Contractors need to agree on the EMI/EMC plan.
429	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall ensure the compliance of the requirements of STC Contractors for on board ATP/ATO.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
430	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor to provide details from TCMS to VATC communication.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The S&TC Contractor needs to follow the protocol for TCMS-On-Board ATC/CCTV communication, proposed by RS Contractors. However both Contractors need to agree on the format & contents of various types of messages exchanged through this link.
431	Part 2	PS- Appendix 2P-1	2.13.1	The RS Contractor to provide TCMS to VATC/CCTV interface requirements to STC Contractor to comply with functionality as specified in the Rolling Stock contract.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The S&TC Contractor needs to follow the protocol for TCMS-On-Board ATC/CCTV communication, proposed by RS Contractors. However both Contractors need to agree on the format & contents of various types of messages exchanged through this link.
432	Part 2	PS- Appendix 2P-1	2.13.1	17 Standalone door operation	Does "Standalone door operation" mean controlling of the opening / closing of individual vehicle doors? If not, please explain the term.	Please refer Particular specification "Staff access passenger door" details
433	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall give the necessary support to the	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
434	Part 2	PS- Appendix 2P-1	2.13.1	STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	STC contractor is signalling contractor
435	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall be responsible for development of the GUI S.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The scope is self explanatory. The mentioned sentence is written under the RS contractors heading.
436	Part 2	PS- Appendix 2P-1	2.13.1	No Item STC Contractor RS Contractor support during interface finalization to the RS contractor (including hardware) for the	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
437	Part 2	PS- Appendix 2P-1	2.13.1	RS controller (RSC) in the	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Interface specification clearly defines the roles of both contractors.
438	Part 2	PS- Appendix 2P-1	2.13.1	OCC, BCC & DCC.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Interface specification clearly defines the roles of both contractors.
439	Part 2	PS- Appendix 2P-1	2.13.1	Any other GUI(s) in OCC/BCC/DCC shall not be the scope of RS contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor
440	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall furnish value of GEBR to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor
441	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall furnish the pass/fail criteria based on the speed achieved and gradient of the track to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor
442	Part 2	PS- Appendix 2P-1	2.13.1	In case, signal for Panto management fails, the RS Contractor will ensure that the an independent information about neutral section is available on TCMS.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor
443	Part 2	PS- Appendix 2P-1	2.13.1	RS Contractor shall ensure that all interface requirements with PSD contractor are informed to STC Contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor
444	Part 2	PS- Appendix 2P-1	2.13.1	RS contractor shall ensure all the interface requirements pertaining to STC Contractor are shared ,agreed and implemented mutually.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The responsibility of STC contractor is written in the column of STC contractor
445	Part 2	PS- Appendix 2P-1	2.13.1	RS contractor shall install a RTR DMS central server in OCC to store the data of all trains of the system.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The data network connectivity and power supply provision is in the scope of STC contractor.
446	Part 2	PS- Appendix 2P-1	2.13.1	RS contractor shall use this data to display in RSC console in OCC, BCC & DCC.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The data network connectivity and power supply provision is in the scope of STC contractor.
447	Part 2	PS- Appendix 2P-1	2.13.1	Also the same data shall be available in the RS maintenance laptops with S.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Scope of RS contractors
448	Part 2	PS- Appendix 2P-1	2.13.1	No Item STC Contractor RS Contractor server to DCCs and BCCs located at geographically different locations.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The data network connectivity and power supply provision is in the scope of STC contractor.
449	Part 2	PS- Appendix 2P-1	2.13.1	The DCCs shall be available in all depots of CMRL phase 2 project.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	DCCs are available in all depots of Phase 2. STC contractor has to provide network connectivity and power supply provision for RTR-DMS work stations and servers
450	Part 2	PS- Appendix 2P-1	2.13.1	Viewing rights and without the control access.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Scope of RS contractors

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
451	Part 2	PS- Appendix 2P-1	2.13.1	RS contractor shall store the CCTV footages of train within central video recorder (NVR) in each train.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Interface exists between the NVR and the VMS system through DCS for downloading of videos and play back facility as explained in detail in this appendix
452	Part 2	PS- Appendix 2P-1	2.13.1	RS contractor shall provide the necessary information as requested by STC contractor.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	Scope of RS contractors
453	Part 2	PS- Appendix 2Q	2.1.1	The system shall utilize cab signals with lineside signals as described in PS.	Are the lineside signals always switched on or off?	Line side signals need not be ON all times. For a UTO train the Signals shall be kept OFF. Refer Particular specification Clause 5.8.11.7
454	Part 2	PS- Appendix 2Q	3.2.1.1	Allowed running speed of trains will be 85 kmph (if not limited as a part of Interface input).	Does 85 kmph mentioned here refer to MSS?	Allowed running speed is MSS. However Refer Addendum
455	Part 2	PS- Appendix 2Q	3.2.3.1.1	When a train is operating in Cut-Out Mode due to failure of the on-board ATP equipment, the speed shall be limited to 25 kmph.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The speed monitoring is the respnsibility of repective RS contractor in high speed cutout and low speed cutout
456	Part 2	PS- Appendix 2Q	3.2.3.1	The on-board Rolling stock equipment will enforce this limit.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The speed monitoring is the respnsibility of repective RS contractor in high speed cutout and low speed cutout
457	Part 2	PS- Appendix 2Q	3.2.3.2.1	When a train is operating in Cut-Out Mode due to failure of the on-board ATP equipment, the speed shall be limited to 40 kmph.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The speed monitoring is the respnsibility of repective RS contractor in high speed cutout and low speed cutout
458	Part 2	PS- Appendix 2Q	3.2.3.1	The on-board Rolling stock equipment will enforce this limit.	We understand that this is not the scope of Signalling Contractor. Kindly confirm the same.	The speed monitoring is the respnsibility of repective RS contractor in high speed cutout and low speed cutout
459	Part 2	PS- Appendix 2Q	3.2.4.1	When a train is operating in RM Mode, the speed shall be limited to 25 kmph. The on- board ATP equipment shall enforce this limit.	Does 25 kmph mentioned here refer to MSS?	The details on implementation to be decided in the design phase.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
460	Part 2	Particular Specifications	3.2.1.2.28	<p>Demonstration of contract compliance and traceability against all contractual technical and functional requirements using a formal requirements management and traceability tool.</p> <p>For tools that are compatible with IBM Rational DOORS latest version, electronic copies of the database shall be submitted to the Employer's Engineer each month, starting from the beginning of the System Design phase until the end of the project for the Employers Engineers information.</p> <p>For tools that are not compatible to IBM Rational. DOORS an alternative export mechanism shall be proposed for the monthly submission for the acceptance of the Employer's Engineer.</p> <p>The contractor shall supply the latest IBM Rational DOORS software and necessary license for the Engineer and Employer to operate the software for the period till completion of DLP of last stage.</p>	Is it acceptable to use "formal requirements management and traceability tool " instead of DOORS?	The existing clause is self explanatory
461	Part 2	Particular Specifications	5.7.3.4	<p>The contractor shall provide the APIs for integrating minimum 99 external servers to which the data can be transmitted with necessary authentication. The servers shall be either physical servers or cloud servers connected over Internet</p>	Is it acceptable to use local network for the cyber security reasons?	<p>This provision is for interface with external networks. For cyber security of the ATS system and inturn other signalling systems, the communication between the transfer server and ATS shall be protected using unidirectional communication enforced using a hardware protection mechanism (eg: data diode) Refer Clause 5.7.3.3 of Particular soecification</p>
462	Part 2	Particular Specifications	5.7.3.6	<p>The contractor shall ensure the security of the data as well as the system by two level approved cyber security means like Fire wall. It is proposed that the first level of security (firewall or equivalent) measures is implemented between the transfer server and the ATS. The second level peripheral security measure shall be provided between the transfer server and the external servers.</p>	<p>The first level of security mentioned here is Signalling Contractor's scope but the second level of security is out of Signalling Contractor's scope. Kindly confirm if our above understanding is correct.</p>	<p>Refer Addendum for the updated clause.</p> <p>The first level of security between tranfer server and ATS shall be by Hardware means (eg: communication diode etc) . The second level of protection is between the the transfer server and the external servers. This can be a firewall of appropriate security. Both the level of security is under the scope of STC contractor</p>
463	Part 2	Particular Specifications	5.7.3.10	<p>Necessary technical documentation shall be provided to the employer to replace the cyber security measure with similar products of other supplier's product.</p>	<p>Please note 1) that the technical document shall be used only for this project, and 2) that there may be documents that cannot be shared due to confidentiality policy.</p>	<p>The technical documentation is limited to the functionality so as to enable the Operator to select an appropriate replacement for the firewall or for the hardware security measure from the open market.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
464	Part 2	Particular Specifications	5.23.9.20	The data of various sub-networks in the non-CBTC radio shall be dynamic with a minimum threshold as per demand and availability of the band width. Priority for each data traffic shall be defined as a part of network planning and shall be submitted to the Engineer for NoNO. Additional two subnetworks shall be made available for future use for other maintenance systems mounted on rolling stock.	Please confirm if Weighted Fare Queuing can be limited to conduct only by wired communication rather than radio communication.	Refer Addendum
465	Part 2	PS- Appendix 2P-1	2.3.4 b)	Information of the operation of the equipment shall be transmitted to the OCC via the Signalling & train Control system. Complete information of trains shall be transmitted to OCC/BCC/DCC to enable the OCC to determine the status of the equipment, sub-systems, and systems of the Trains and to issue the required control commands to the Trains via Signalling & train Control system and via RTR-DMS system of RSC workstation to monitor, control, reset, isolate any of the equipment or circuit of train to meet the safety and reliability requirements specified in this specification	Please list up in detail the information that needs to be transmitted to the OCC/BCC/DCC through the Signalling & train Control system.	The details of the information and the remote commands are to be finalised in the detail design phase and interface design phase. The broad list is available in the particular specification and its appendices.
466	Part 2	PS- Appendix 2P-1	2.4.11 b)	Rolling Stock Responsibilities:	Please confirm if these requirements are specified in the Particular specifications of Rolling Stock Contract under the scope of Rolling Stock Contractor.	Interface specification is also part of RS contract PS
467	Part 2	Particular Specifications	4.10.1	The response time for all equipment, except for point machines, irrespective of the location shall not generally be greater than 500 ms and as per IEEE 1474.	Please confirm this length shall be proposed during detail design phase.	Bid conditions will prevail.
468	Part 1	ITB	21.1	The Bidder shall furnish as part of its Bid a Bid Security in the amount and currency specified in the BDS.	Should beneficiary be the same as the addresses in bid clarification purpose? If not, please specify the proper name of beneficiary.	Beneficiary Name shall be adopted as below: Chennai Metro Rail Limited (CMRL), Admin Building, CMRL Depot Poonamallee High Road, Koyambedu Chennai – 600 107
469	Part 1	Bidding Forms	Form FIR 1	Sources of financing may include working capital (to be taken from FIN-1), Credit Line (to be substantiated by a letter from the bank issuing the line of credit), etc.	Please confirm that a letter from a bank issuing the line of credit required in Form FIR-1 will be addressed to "Chennai Metro Rail Limited". If not, please indicate the proper addresses on a letter.	Beneficiary Name shall be adopted as below: Chennai Metro Rail Limited (CMRL), Admin Building, CMRL Depot Poonamallee High Road, Koyambedu Chennai – 600 107

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
470	Part 2	Particular Specifications	5.8.10.3.5	The train occupancy information from axle counter system shall be actively used along with CBTC detection system, wherever the axle counter input provides faster identification of train position benefitting faster release of routes/points.	CBTC detection is the primary train detection and CBTC detection is always faster than the axle counter system for faster release of routes/points. Please confirm if specification is still required.	Bid conditions will prevail.In any location, if the axle counter system detection is faster or more precise (probably in the point area etc), this shall be used so that the benefits of faster release of the route and its immediate availability for other waiting movements, can be realised.
471	Part 2	Particular Specifications	5.8.16.1	UPS equipment and associated cabling	This is not the scope of S&TC contractor. Kindly confirm the same.	UPS is in the scope of MEP Contractors. STC contractor shall terminate the main power feeder cables for feeding various Signaling Sub-Systems , in the UPS room and shall further extend the same to the Signaling Equipment room. The details of power outlets & methodology of termination in the UPS room, needs to be agreed with the MEP Contractor, through the interface forum.
472	Part 2	Particular Specifications	5.23.10.10 i)	The connection fiber to OCC and BOCC shall have path diversity. For Koyambedu OCC, the two number of fibers shall connect from Vadapalani Station. For BOCC at Nandanam Metro Bhavan, the two fibers shall connect from Alandur station. The contractor shall lay the connection fibers in Phase 1 viaducts and tunnels with path diversity (one cable in UP line cable tray and one cable in Down line cable tray) and connect the OCC and BOCC to the corridors of Phase 2.	Please clarify the Scope and Interface between Phase 1 and Phase 2.	The contractor shall provide dedicated fibre connection from the Vadapalani and Alandur station to OCC and BOCC respectively, using the Phase 1 cable trays between these two locations and Koyambedu/Nandanam respectively. Cable trays are available on the viaducts and tunnels of phase 1. The STC contractor of Phase 2 shall procure and install the cable and commission the duplicated end to end fibre connectivity , with route diversity.
473	Part 2	Particular Specifications	3.2.1.2.27	Consoles and chairs for OCC theatre, BOCC, furniture for SER of all station, SMR of stations with points and crossing, DCC, LAB/Repair Centre, Operational Planning Room in OCC and BOCC buildings, Signalling Maintenance Management Room in OCC and BOCC buildings and other rooms where Signal workstations/equipments are proposed to be supplied by Contractor.	Since SCR is not mentioned here, we assume that S&TC contractor need not provide the required items for Station Control room. Kindly acknowledge the same.	SCR furniture is not in the scope of STC contractor

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
474	Part 2	Particular Specifications	5.8.16.1.1	There will be common UPS for Signalling and Train Control, Telecommunication, Automatic Fare Collection Systems & PSD. The UPS supply will be made available to signalling contractor at a shared location in the UPS room or Switch Gear Room. Two separate feeders will be made available for the signalling contractor to connect the main power cable. Further distribution, protection arrangements, DC supply etc. shall be the responsibility of signalling contractor.	Is distribution of power from PDC to AFC, PSD responsibility of S &TC Contractor?	For Other systems like AFC,PSD, the respective contractor will extract power from the UPS distribution panel on similar lines of STC contractor and independently manage the further power distribution for their systems
475	Part 2	Particular Specifications	5.8.6.7	Details to be decided in the detail design phase.	Please confirm that Contractor's technical bidding documents can be a part of the Contract.	Contractors technical bid is a part of the contract document.Particular specification is having higher precedence over the contractors technical bid document.
476	Part 2	Particular Specifications	5.8.13.10	Turn back at any location (including mid-section) shall also be possible.	Although there are some sections where turn back should not be possible due to safety reasons, will turn back at any location be required for this project without any exceptional sections?	Bid condition will prevail.
477	Part 2	PS- Appendix 2L	References	Whenever, reference to any specification appears in this document, it shall be taken as a reference to the latest version of that specification unless the year of issue of the specification is specifically stated.	We understand that reference appearing on this tender document is the latest one, unless addendum and/or corrigendum are issued.	Bid condition will prevail.
478	Part 2	PS- Appendix 2L	References	This list is minimum which can be further modified as per requirements or updates.	Please itemize all required references; otherwise, we consider this list as the maximum one.	Any standards required to be adhered to comply with other contractual requirements also needs to be taken into account.
479	Part 2	Particular Specifications	5.8.8.3	Depot test tracks shall be provided with all facility of testing PSD interface.	Please confirm if test tracks should be provided (1) with actual PSD equipment for testing purpose or (2) simulated equipment of PSD. In case of (2), please confirm that simulated equipment of PSD should be installed inside of a hut.	The Signalling Interface for PSD needs to be tested in the test track. The signalling contractor has to provide a PSD emulation equipment, in which the Door open, close, ADCL etc can be emulated along with indications. This facility is to test the signalling equipment capability to operate PSD. The PSD simulator shall be installed in the equipment room.
480	Part 2	Particular Specifications	5.8.8.3	Depot test tracks shall be provided with all facility of testing PSD interface.	In order to have interface with PSD, we understand that CMRL will have a contract with PSD contractor within 3 months after signalling contract, and thereafter within 6 months, all required interface specifications will be disclosed. Please confirm the same.	At least for the critical section (Corridor 4-Stage 1), the PSD Contractor is scheduled to be in place within 6 months of Signaling Contract. In matters of award of Contracts, nothing can be guaranteed in advance.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
481	Part 2	Particular Specifications	5.8.14.9	The Service life of the Relays shall be minimum 30 years for the expected number of operations.	As Japanese Railway standard, it is recommended to replace the Relays in every 10 years for safety reasons. Please confirm that minimum 10 years is also accepted.	The relays shall be capable of operating for 30 years for the calculated number of operation based on the min headway.
482	Part 2	Particular Specifications	5.10.8	The implementation of work zone protection and its release shall be classified as a safety rated functionality SIL 4 and shall be processed accordingly.	Please confirm that (1) the implementation by CBI with SIL 4 certified is required for this purpose and (2) SPK does not require SIL 4 certificate.	SPK interlocking with the interlocking system , shall meet the requirements of SIL 4. The work zone protection needs to be implemented in SIL 4.
483	Part 2	Particular Specifications	5.10.1	The Signalling and Train control system shall include facilities for manual setting and manual release of work zone protections and other route/point/signal blocks as a SIL 4 functionality in the interlocking system.	Please confirm that facility for manual setting and manual release is only applied to work zone protections, and they do not apply to other route/point/signal blocks because they are totally different functions.	Manual setting up of Signal, point, route blocks and their release in case of operational exigencies, has to be a SIL 2 operation from ATS with double confirmation from the Operator. Work zone implementation is SIL 4.
484	Part 2	Particular Specifications	5.10.6	Loss of power supply and resumption of the system should not release the imposed work zone protection.	Please confirm that this requirement is applied to work zone protections only.	Work zone protection shall have this facility.
485	Part 2	Particular Specifications	3.8.14	For Depot routes originating from the Workshop lines, Maintenance Vehicle sidings, dead approach locking of 45 sec shall be applicable.	Please explain and elaborate dead approach locking.	Once the route is set, and if the Operator tries to release the route from the work stations, the route release shall occur after 45 sec of the command for release, provided the route is not occupied by the train for which it was set.
486	Part 2	PS- Appendix 2L	3.10.	Computer Based interlocking system shall have user-friendly graphic based design tool to generate station specific application software to carry out future yard modifications.	Please confirm that this tool is used by the Contractor for modifications, not by the Employer.	This is for the contracor to do the modifications. For better clarity, Refer Addendum
487	Part 2	Particular Specifications	5.2.3.2	In a 24-hour operation period, the maintenance of signalling system as well as other assets shall be taken up in the passenger operation time.	The Maintenance should be restricted to daily maintenance which does not require equipment power-off and logic change of CBI.	All the scheduled and corrective maintenace shall be able to be done in the revenue hours. this includes indoor and outdoor works. And this excludes the software change of any safety critical systems and shutdown.
488	Part 2	Particular Specifications	5.2.3.2	All indoor Signalling system shall be capable of being maintained (scheduled maintenance and corrective maintenance) in the passenger operation hours itself without affecting train operation.	The Maintenance should be restricted to daily maintenance which does not require equipment power-off and logic change of CBI.	All the scheduled and corrective maintenace shall be able to be done in the revenue hours. this includes indoor and outdoor works. And this excludes the software change of any safety critical systems and shutdown.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
489	Part 2	Particular Specifications	5.3.10.5	The mode changes required for other standby modes like Sleep, ready, dozing, wash etc. shall be automatic, scheduled.	Please specify the number of modes which have been operated in existing line.	If the query is about CMRL phase 1 lines, these lines are not operated in GoA 4, so many of the Phase 1 information is not relevant for Phase 2. For the Phase 2 project, these bid conditions will prevail.
490	Part 1	NIT	11	Last Date and Time of submission/uploading of Bid 11 Oct 2021 up to 13:00 hrs	We seek 8 weeks extension from the date of receipt of pre-bid answers.	Refer Corrigendum 01 and 02
491	Part 2	Particular Specifications	2.2.13	Rolling stock will be Electrical Multiple Units (EMU), standard gauge with 2.9m car width with end evacuation facility. Rolling stock will be operated in 3 car configuration and shall be extendable to 6 car configurations. In this project three different type of rolling stocks are planned.	Please clarify, if the wayside ATC materials (balise) and relevant on-board ATC materials needs to be considered only for 3 car train for this tender or needs to be considered as well for 6 car configuration as well.	Refer Addendum
492	Part 2	Particular Specifications	3.1.2	The Signalling and Train Control System and Video Management System (VMS) for the entire Chennai Metro Rail Phase 2 project (120 km line length spanning over 3 corridors and total 138 rolling stocks (from three different supplier) comprising of design, manufacture, verification, supply, installation, testing, integration, and commissioning by the Contractor including provision of training and Maintenance.	Please clarify, if all the 138 rolling stocks would be of 3 car train configuration. For future 6 car train configuration will the new formation would be made out of existing 138 trains?	All 138 Rollingstocks will be 3-Car configuration. For future conversion of these trains to 6-car, new cars will be added in between the existing cars of the 3 car consists.
493	Part 2	Particular Specifications	4.9.1	The Signalling and Train Control System shall provide a minimum designed signalled Headway of less than or equal to 90 Seconds with 30- second dwells at intermediate stations and a minimum 90 sec layover at the terminal station platforms (minimum 30-second layover when front crossover is used), The Headway calculation will include Train operation time, PSD Operation time, application and release time of service brakes etc.. For design of minimum Headway requirement calculation, 6 car consist may be used.	Headway value is dependent on other sub-contractors as well (civil, track, rolling stock, etc.).	Ref is cited to the IEEE 1474.1 standard para 5.1 which says the authority shall define the headway. Track alignment data and Rolling stock parameters are shared in this document. Bidder will do the headway calculation and do the design accordingly.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
494	Part 2	Particular Specifications	4.9.6	The Design Headway shall be based uninterfered and shall provide an average travel speed of 30 Kmph or higher, based on the track alignment, with a station dwell time of 30 seconds.	Depending on civil alignment constraints on civil curve speed limits, number of curves, number and tightness of gradients along with rolling stock parameters a 30kmph average speed can't be anticipated at this stage. We will propose a compliant design and operation headway based on the best average speed possible within the alignment and rolling stock constraints.Please confirm.	Track allignment data and Rolling stock paramneters are shared in this document.Bidder will do the headway calculation and do the design accordingly, to achieve the best posible minimum average travel speed.
495	Part 2	Particular Specifications	4.10.5	The time necessary to the initialization of a sub-system (trackside ATC, train borne ATC, interlocking, track to train transmission, train detection) shall be as short as possible and no greater than 40 seconds.	For train borne ATC system due to various self-checks/operational requirements the time interval can be longer than 40 seconds hence we request you to change the requirement to 60 seconds for train borne ATC system without affecting the performance/headway.	Refer Addendum
496	Part 2	Particular Specifications	4.11.2	The stopping position shall be same for all three types of rolling stocks. The centre of the first passenger door of all types of rolling stocks shall be taken as the common reference point for determining the stopping point, so that all three types of rolling stocks can match with PSD irrespective of the front overhang length of various rolling stocks.	We understand taking into account multi consist trains of 3 car and 6 car consists the unique stopping point for both type of train consist would be platform edge stopping for each direction of travel (instead of center stopping).	The stopping point of all types of 3 car rolling stocks on a particular platform shall be the same. The centre of the passenger door is the ref for determining the stopping point accorss the three type of rollying stocks. The stopping position of a 3 car train in normal direction or reverse direction of travel will be the same for a particular platform. The stopping points of 6 car trains, in future, may vary from the 3 car stopping point. Various concepts of 3 car stoppages in different platforms are provided inthe Addendum to the tender drawing as a schematic. The list of stations and stopping will be decided in the detail design phase.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
497	Part 2	Particular Specifications	4.12.4	If the train in UTO/DTO/ATO mode stops outside the +/- 300mm window, an alarm shall be raised immediately in OCC, then the System shall use an automatic jog forward/back feature to fulfil the window. The stopping in the window after jog activation will not qualify as a successful event for the calculation of stopping accuracy percentage requirement as per 4.12.1. If the train in UTO/DTO/ATO mode stops outside the +/-300mm window, Jog forward/backward will be used by the system to align the train to stopping point.	As per clause 4.13.1 we understand the ATP stopping window is +/- 0.7m from the stopping point which is the door opening authorisation window. Thus undershoot and overshoot recovery (i.e. jog forward/back) will occur only when train stops outside ATP stopping window of +/-700m i.e. outside the door opening authorisation window. We would request to amend the relevant clauses accordingly.	To use full width of the PSD available for passenger ingress/egress for those cases where the stopping is outside +/-300 mm stopping accuracy (other than the 99.98 % of station stops, as per clause 4.12.1), Jog forward/back to be operationalised , outside +/- 300 mm stopping accuracy. The Bid conditions will prevail.
498	Part 2	Particular Specifications	4.13.3	If the train in UTO/DTO/ATO mode stops outside the +/- 300mm window, an alarm shall be raised immediately in OCC, then the System shall use an automatic jog forward/back feature to fulfil the window. The stopping in the window after jog activation will not qualify as a successful event for the calculation of stopping accuracy percentage requirement as per 4.12.1. If the train in UTO/DTO/ATO mode stops outside the +/-300mm window, Jog forward/backward will be used by the system to align the train to stopping point.	As per clause 4.13.1 we understand the ATP stopping window is +/- 0.7m from the stopping point which is the door opening authorisation window. Thus undershoot and overshoot recovery (i.e. jog forward/back) will occur only when train stops outside ATP stopping window of +/-700m i.e. outside the door opening authorisation window. We would request to amend the relevant clauses accordingly.	To use full width of the PSD available for passenger ingress/egress for those cases where the stopping is outside +/-300 mm stopping accuracy (other than the 99.98 % of station stops, as per clause 4.12.1), Jog forward/back to be operationalised , outside +/- 300 mm stopping accuracy. The Bid conditions will prevail.
499	Part 2	Particular Specifications	4.16.3	In the Event of ATP Failure, ATP Mode degrades to RM/ROS mode after stopping of Train and conscious action of the Train Operator of pressing the RM/ROS Button.	Request to amend the clause as follows (RM to be deleted):“In the Event of ATP Failure, ATP Mode degrades to ROS mode after stopping of Train and conscious action of the Train Operator of pressing the ROS Button.”	In this project, it is proposed to have RM and ROS as a single mode. This is equivalent to the ROS functionalities. There shall be an RM/ROS button in the operator desk. There is no need for a separate RM mode in the mode selector of the Rolling stock Hence RM and ROS are interchangeably used.
500	Part 2	Particular Specifications	5.2.1.1	The line is normally operated on the left side track.	Please clarify. Is it that the Up Track normal direction of travel is from right to left or something else?	The concept which common wealth countries follow in road traffic (left side in the normal direction of traffic)is followed in rail traffic also in India. This clause explains this concept. However the signalling system shall be designed for bi-directional movement of trains with complete signaling facility of UTO, ATP, ARS, ATR, Time table, Interfaces for passenger information systems etc.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
501	Part 2	Particular Specifications	5.3.1	<p>The Signalling and Train Control System shall provide the following modes of Train operation.</p> <p>a) Unattended Train Operation Mode (UTO)</p> <p>b) Driverless train Operation mode (DTO)</p> <p>c) Automatic Train Operation Mode (ATO)</p> <p>d) Automatic Train Protection Mode (ATP) or Supervised Mode</p> <p>e) Restricted Manual Mode (RM)/ROS</p> <p>f) Cut-out mode (High speed and Low speed)</p> <p>g) Automatic Turn Back mode</p>	Please assign ROS mode as a separate mode instead of merging with RM mode:Run on Sight Mode (ROS Mode)	A seperate RM mode is not required in the mode selector of Rolling stock. The ROS mode, selected by the ROS push button OR when any critical failure happens for Train borne ATP, is used for degraded operation. Since RM mode is not seperatly available, RM and ROS are used interchagably in the document
502	Part 2	Particular Specifications	5.3.2.5	<p>Whenever any train get delocalized, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a driver inside the train. This is to facilitate the upgradation back to UTO in full speed once the localization and associated conditions are achieved. This facility is provided for the resumption of the train movement and upgradation back to UTO mode without any requirement of manual intervention inside train. The front camera of the train shall be automatically displayed in the OCC VMS system, whenever the crawling is activated.</p>	<p>After a train gets delocalised (after a Wi-Fi failure or any other) it will run in degraded mode (RM/ROS) under the speed ceiling of the degraded modes which is 25 km/h. Once all the conditions gets satisfied then the train will get localised automatically. This has been also explained in clause 5.3.6.1. Before localisation, there would be NO ATP available and the train will run till time in (RM/ROS) mode with 25 km/h speed ceiling.</p>	Refer Addendum
503	Part 2	Particular Specifications	5.4.4	<p>Any delocalization of train, the train shall be able to be operated in a crawling movement with reduced speed (15 kmph) with a command from OCC under the safety supervision of ATP in UTO without a manual intervention requirement at the train. This is to facilitate the upgradation back to UTO in full speed once the localization and associated conditions are achieved. This facility is provided for the resumption of the train movement and upgradation back to UTO mode without any requirement of manual intervention inside train. If the train doesn't have adequate distance to fulfill the requirements of upgradation to UTO mode before reaching the next passenger platform, the train shall enter the platform partially in crawling movement and stop waiting for the roving attendant to enter the train from the platform.</p>	<p>After a train gets delocalised (after a Wi-Fi failure or any other) it will run in degraded mode (RM/ROS) under the speed ceiling of the degraded modes which is 25 km/h. Once all the conditions gets satisfied then the train will get localised automatically. This has been also explained in clause 5.3.6.1. Before localisation, there would be NO ATP available and the train will run till time in (RM/ROS) mode with 25 km/h speed ceiling.</p>	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
504	Part 2	Particular Specifications	5.4.5	Any failure of DCS, causing a dead spot in the Wi-Fi communication between the train and the wayside inside the viaduct or Tunnel, the Operator shall have the facility to initiate a command, from the ATS terminal in OCC, to the train to move in a crawling speed (of 15 kmph) as speed for a fixed distance. This movement shall be under the safety supervision of the ATP. This instruction shall be communicated to the train borne systems through the bi-directional TETRA communication radio channel. Necessary checks to ensure the safety and integrity shall be ensured by the vital systems of signalling. Once the DCS system starts working in this movement, the train shall start communicating with the way-side systems and upgrade to UTO in full speed without a manual intervention after localization and achievement of other associated conditions.	After a train gets delocalised (after a Wi-Fi failure or any other) it will run in degraded mode (RM/ROS) under the speed ceiling of the degraded modes which is 25 km/h. Once all the conditions gets satisfied then the train will get localised automatically. This has been also explained in clause 5.3.6.1. Before localisation, there would be NO ATP available and the train will run till time in (RM/ROS) mode with 25 km/h speed ceiling.	Refer Addendum
505	Part 2	Particular Specifications	5.3.4.5	Train re-starting from a signal stop shall be automatic.	We understand train re-starting after ATP signal stop will be done by train operator by ATO start button. Since it's related to safety. Driver need to ensure that everything is OK and train can re-start further from stop signal.	The train running in UTO/DTO/ATO mode, shall restart in the same mode once the signal stop is lifted by the system.
506	Part 2	Particular Specifications	5.3.4.9	Automatic Jog mode facility shall be available in UTO mode for train stopping outside the prescribed stopping window of +-300mm.	This clause is NOT relevant under ATO mode.	The Automatic jog mode shall function in UTO, DTO and ATO modes.
507	Part 2	Particular Specifications	5.3.7.2	Cut-Out Mode is intended for use in case of complete failure of Train borne Signalling and Train Control System preventing release of the emergency brake. The Train shall hold off the emergency brake (to be taken up in interface design). The Train-borne equipment supplied by the Rolling Stock (RS) Contractor shall limit the speed at 25 Kmph in low-speed cutout mode. In high-speed cutout mode, the rolling stock contractor will limit the speed to 40 kmph.	We understand for high-speed cutout mode having 40 km/h speed limit will there "Standard Operating Procedure" in place for safety reasons. For example high speed cutout should not be applied over 1:7 turnouts having 25 kmph speed restriction, very tight curves (if any) having less than 40 km/h speed restriction etc.	Yes, the manual restriction of speed in those sections where the civil speed is below the 40 kmph will be regulated through Standard Operating procedure.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
508	Part 2	Particular Specifications	5.3.9.1	At the turnback stations the train is operated automatically by the ATC to the turn back track and back to the terminal station without driver. Additionally, there should be facility for automatic turns back at platform of the terminal station & intermediate turn back station when train is directly received on the dispatch platform by using the crossover in front of the station. It shall be possible to enter the automatic turn back mode from ATO mode.	The ATB is a type of driverless operation and the ATB movements are done without passenger. So ATB is done only at terminal stations at the zone after platform upto the buffer location. In this context we request you to delete the sentence “Additionally, there should be facility for automatic turnback at platform of the terminal station & Intermediate turnback station when train is directly received on the dispatch platform by using the crossover in front of the station” specifically for ATB. However the For intermediate turnback stations, intermediate turnbacks will be done by ATP and ATO modes.	Refer Addendum
509	Part 2	Particular Specifications	5.5.1	All Signalling and Train Control system equipments/ electronic cards shall be provided with a reset function to allow the failed equipment to reset and restart remotely as well as locally. This facility shall be available on CBI, Trackside ATC, On-board ATC, Central equipments-ATS, communication buses, Radio communication networks including switches, access points etc. This is apart from any automatic reset facility available in the systems.	We request to delete the remote reset feature for Wayside ATC and OnBoard ATC due to safety concerns and it is not recommended to have this feature.	Bid condition prevails. Any safety concerns can be identified, raised and got resolved as a part of the detail design phase.
510	Part 2	Particular Specifications	5.6.2	The system shall have the capability of remotely resetting the signalling train control and VMS equipments from the central maintenance and diagnostics system at the FMC position of the OCC/BOCC. The maintenance and diagnostic system workstations in other locations, shall not have any control for resetting and shall be capable of using for monitoring of the system related data.	We request to delete the remote reset feature for Wayside ATC and OnBoard ATC due to safety concerns and it is not recommended to have this feature.	Bid condition prevails. Any safety concerns can be identified, raised and got resolved as a part of the detail design phase.
511	Part 2	Particular Specifications	5.8.6.7	The first movement of the train to/from a platform/station after the resetting of Emergency Stop plunger shall be in reduced speed with audible warning. Details to be decided in the detail design phase.	Request to clarify in details and also let us know if this feature needs to be provided by CBTC system.	This is a sweeping movement (sweepingzone: Ref Clause 5.12 of PS) with an audible warning for the section under the jurisdiction of the Emergency stop plunger

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
512	Part 2	Particular Specifications	5.8.8.3	Depot test tracks shall be provided with all facility of testing PSD interface. The test track shall provide the following facilities as a minimum:f) Testing of Platform Screen Door interface.	We understand there would be NO physical PSD at depot test track and the testing of PSD needs to be facilitated by some PSD simulator. Please confirm our understanding.	The Signalling Interface for PSD needs to be tested in the test track. The signalling contractor has to provide a PSD emulation equipment, in which the Door open, close, ADCL etc can be emulated along with indications. This facility is to test the signalling equipment capability to operate PSD. The simulator shall be inside the equipment room.
513	Part 2	Particular Specifications	5.21.4.3	f) Testing of Platform Screen Door interface.	We understand there would be NO physical PSD at depot test track and the testing of PSD needs to be facilitated by some PSD simulator. Please confirm our understanding.	The Signalling Interface for PSD needs to be tested in the test track. The signalling contractor has to provide a PSD emulation equipment, in which the Door open, close, ADCL etc can be emulated along with indications. This facility is to test the signalling equipment capability to operate PSD.
514	Part 2	Particular Specifications	5.9.10	Temporary speed restrictions shall be capable of being imposed over any track segment for any length in steps of 50m and 200m.	We would request to amend the clause as below:“Temporary speed restrictions shall be capable of being imposed over any track segment which shall not be more than 250m.”	Refer Addendum
515	Part 2	PS- Appendix 2M	6.6	No single component/card failure (viz input/output card DMI, odometer/Tachometer, Balise antenna, radio antenna, radio modem etc.) should cause the complete failure of the on-board or trackside ATP or ATO equipment. Both cabs shall have the independent ATC equipments. The Bi-directional Train to wayside radio communication network architecture should use radio-based communication system. Failure of single network element viz Radio access point, switch, media converter etc. shall not cause any deterioration in CBTC working.	As per Appendix 2M Clause 6.4 (b) On-board ATP having two-out-of-three architecture, cab wise ATP redundancy is not required. In this context, we request you to amend or delete the clause sentence “Both cabs shall have the independent ATC equipments.”	Refer Addendum
516	Part 2	PS- Appendix 2P-1	2.4.52	In UTO mode, if train gets delocalized, the STC system should use memorized location so that train can move with less speed until next beacon. Once train passes the next beacon, train shall be localized and get normal speed authorization.	After delocalisation, reading of two balises are required to gain localisation again.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
517	Part 2	PS- Appendix 2P-1	2.13	INTERFACE- Division of Responsibility :Interface between ATP/ATO/UTO with train braking and propulsion systems for automatic braking, acceleration and deceleration. STC Contractor: ZVR & redundant EBR relays to be supplied by the STC Contractor.	ZVR and EBR relays are generally provided by Rolling Stock contractor. As S&T contractor we will provide the on-board vital output signals to energise these 2 relays. In this context we would request you to remove the ZVR and redundant EBR relays scope of supply responsibility from S&TC contractor and put the same 2 relays scope of supply under the scope of rolling stock contractor.	Bid condition prevails. The mentioned relays are for vital output from train borne ATC. For vital outputs, the relay will be that of ATC and the coil picking voltage also that of ATC. The RS will be provided with dry contacts which can be wired as per Interface wiring in which voltage will be provided by RS systems. The details shall be decided in the Interface design phase.
518	Part 2	General Specifications	12.10.8	The Contractor shall comply with the following EMC requirements: (a) The Contractor shall ensure that all electrical and electronic apparatus are designed and constructed to operate without degradation of quality, performance or loss of function in the electromagnetic environment of the Project. (b) The Contractor shall meet the requirements of the BS ENV50121 series of standards (Railway applications - Electromagnetic compatibility), 1996 edition, the UK's Electromagnetic Compatibility Regulation, the IEC 61000: Electromagnetic Compatibility or equivalent and other standards mentioned in the TS to be reviewed by the Engineer. EMC considerations shall be incorporated in the Contractor's procedures for product safety and design Verification.	The revision of EN 50121 standard mentioned in this clause is obsolete (repealed in Dec-2000). We understand that the current revision of the standard, in force at the time of contract signing shall be applied. We kindly ask to confirm whether our interpretation is correct.	Refer General condition clause 5.4 and Particular condition 26 in this regard. Also Refer the addendum to clause 3.1.3 of the particular specifications
519	Part 2	Particular Specifications	4.19.8.1	The Contractor is required to conduct full EMC tests and the tests to be conducted shall include but not limited to satisfying standards as follows: Overall compliance: a) EN50121-1 b) EN50121-2 c) EN50121-4	It is requested that the signaling system shall comply against EN 50121-2. Being signal integrators we are not responsible for testing of Overall railway system as a whole according to EN 50121-2 std. Since this standard concerns the overall railway system as a whole and not the single subsystem alone , We understand that the compliance to EN 50121-1, EN 50121-3-2 and EN 50121-4 is asked for signaling apparatuses installed in railway environments. We kindly ask to confirm if our interpretation is correct.	Confirmed.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
520	Part 2	Particular Specifications	4..19.8.2	9. Damped oscillatory magnetic field IEC 61000-4-10 10.Voltage dips, short interruptions IEC 61000-4-11 11. Oscillatory waves IEC 61000-4-12 12. Harmonics and Inter Harmonics IEC 61000-4-13 13.Voltage fluctuation IEC 61000-4-14 14.onducted disturbance IEC 61000-4-16 15 Ripple of DC power supply IEC 61000-4-17 16. Variation of power frequency IEC 61000-4-28 17.Digital radio phone IEC(latest draft)	It is requested that the signaling system shall comply against EN 61000-4-10, EN 61000-4-11, EN 61000-4-12, EN 61000-4-13, EN 61000-4-16, EN 61000-4-17 and EN 61000-4-28. These standards, related to power quality rather than EMC, include measurement techniques for tests not foreseen by applicable railway and industrial standards (EN 50121, EN 61000-6-1 to EN 61000-6-4).We therefore understand that the EMC compliance to EN 50121 and EN 61000-6-X standards shall be guaranteed, and that the compliance to EN 61000-4-X is requested according to what is indicated in the EN 50121 and EN 61000-6 standards. We kindly ask to confirm that our interpretation is correct	EN61000-6-1 to 6-4, for immunity & emission requirements. In respect of test procedure, EN 6100-4-2 to 4-6, 4-8, 4-9, 4-11 are applicable for immunity testing and EN 55011 will be applicable for emission testing.
521	Part 2	Particular Specifications	4..19.8.3	The following specific EMC requirements shall be met by the design of the Train Control and Signalling System: (i) Radiated Emissions As a minimum requirement, the maximum levels of radiated electro-magnetic interference (EMI) of the installation shall not exceed the levels specified in EN50081-2; (ii) Conducted EMI The maximum levels of conducted EMI of the installation shall not exceed the levels specified in EN50081-2; and (iii) Induced EMI The Contractor shall ensure that any cables supplied under this Contract other than power cables used by the System are properly screened, earthed and terminated to prevent noise and/or electric shock from exceeding the levels defined by the International Telegraph and Telephone Consultative (CCITT).Please note the standards mentioned are obsolete and should be changed to IEC 61000-6-4:Electromagnetic compatibility – Generic standards Emission standard for industrial environments	Please note the standards mentioned are obsolete and should be changed to IEC 61000-6-4:Electromagnetic compatibility – Generic standards Emission standard for industrial environments	Refer Addendum
522	Part 2	Particular Specifications	4..19.8.4	The maximum levels of induced voltages shall be as follows: (1) Longitude voltage to earth (continuous) 60V; and (2) Longitude voltage to earth (Fault Conditions) 430V The Contractor shall demonstrate with evidence that the induced longitude voltage on the cables does not exceed the levels specified.	Signalling System will liaise with Traction System to assess the voltage induction along signaling cables trackside and assure the compliance to Particular Specification (Part 2, Section 6A, §4.19.8.4) requirements, summarized in the following table. The compliance with such limits will be demonstrated by means of theoretical analyses/simulation and/or tests.	The inputs for STC contractor to design their system shall be obtained from Power Supply & OHE Contractor through Itnerface forum. Refer Addendum to Appendix 2P-6

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
523	Part 2	Particular Specifications	4..19.8.5	As a minimum requirement, the equipment must be immune to field strength of 20V/m in the frequency range of 27 to 2000 MHz	It is noted that out-of-standard radiated immunity tests (20V/m between 27 and 2000 MHz) are included in §4.19.8.5 of technical specification. We interpret the requirement as that EMC tests, levels and performance criteria shall be compliant to the applicable EMC standards. Please moreover consider that radiated immunity tests are not foreseen by applicable EMC standards in the frequencies between 27 and 80 MHz, being the immunity against these frequencies already covered by conducted immunity tests.	The testing method for immunity to radiated emissions shall be as per IEC 61000-4-3.
524	Part 2	Particular Specifications	4..19.8.6	Conducted Immunity Levels The equipment supplied shall continue to operate correctly with no degradation in performance, when subject to the levels of conducted interference set out in the European Standard EN50082-2 in the frequency range of 150 kHz to 30 MHz	Please note that obsolete standard has been mentioned here. It should be changed to EN 61000-6-2 Electromagnetic compatibility– Generic standards – Immunity standard for industrial environments	The applicable standards would be EN 61000-6-2 and IEC 61000-4-6.
525	Part 2	Particular Specifications	4..19.8.7	Electrostatic Discharge (ESD) Any equipment, which contains sensitive electronic components and is likely to be handled or touched by personnel or customers shall be protected against electrostatic discharge and shall be tested to 6 kV with contact discharge or 8 kV with air discharge as defined in IEC61000-4-2. Fast Transient Burst In regard of fast transient burst, equipment supplied shall be tested to 2 kV peak in accordance with IEC61000-4-4. Power Surge In regard of power surge, equipment supplied shall be tested to 2 kV (common mode) and 1 kV (differential mode) in accordance with IEC61000-4-5.	We noticed that reference values for Electrostatic discharge tests (8kV air discharge, 6kV contact discharge), Fast transient burst (2 kV peak) and Power surge (2kV common mode, 1kV differential mode) are given for equipment. These values are those given by EN 50121-4 standard. However their pure application would lead to apply them to all the ports of all equipment, whilst the standard states that the tests given are applicable to apparatus inside 3 m zone, whereas other apparatus within the railway environment should comply to requirements of EN 61000-6-2 Also other apparatus (e.g. COTS equipment) normally are compliant with EN 61000-6-1. Please note that appropriate criteria as per EN 50121-4, EN 61000-6-2 and EN 61000-6-1 will be applied depending on the equipment zoning /position of installation.	Applicable immunity standards out of EN 50121-3-2, EN50121-4,EN 61000-6--2 & EN 61000-6-1 will be applicable depending upon the equipment zoning/position/location.
526	Part 2	Particular Specifications	4..19.10.1	The Contractor shall ensure that all the Train control & Signalling equipment are designed and constructed in accordance with the latest issues or versions of internationally recognized EMC standards, including but not limited to EN50081,EN50082, EN50121,EN50123, IEC571, EN50155, IEC 61000 to ensure proper functioning.	Please note obsolete standards have been mentioned. EN 50081/EN 50082 shall be replaced by equivalent IEC/EN 61000-6-x series of generic standards.	The applicable EMC standards would be EN 50121-1 to 4, IEC-61000-6-1 to 4 & IEC 61000-4-2 to 4-6, 4-8 , 4-9,9,IEC 61000-4-11

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
527	Part 2	Particular Specifications	4.19.13	Effect of emission on explosive or volatile / flammable material must be considered.BS6656 (Prevention of inadvertent ignition of flammable atmospheres by radio frequency radiation) and other related standards must be adhered to.	<p>Please note, Standard CLC TR 50427 has superseded the BS 6656 standard. It has been analyzed and resulted not applicable because:</p> <p>I) The presence of electromagnetic radiation due to signaling system is negligible with respect to the emission of the whole railway system and with respect to typical values usually present when this standard is applied.</p> <p>III) The electromagnetic field emission levels imposed by EN 50121 standard series lie in the "No ignition area" of safe threshold field strength diagram (as per CLC TR 50427 std) , for the frequencies interested by Signalling System.</p> <p>We therefore understand that BS 6656 is not applicable to signaling and communication systems.</p>	Signaling system also includes CBTC & non-CBTC Radios. In the context of EN 50121-, EN 55011 & CLC TR 50427 requirements, the non-applicability of any standard with required justification/documentary evidence, can be presented with required justification to the Engineer for his notice of no objection, during the detailed design phase.
528	Part 2	Particular Specifications	8.4.3	The wayside ATP equipment shall conform to CENELEC standards EN50121-2 & 4 and EN50082-2. For radiated Emissions & conducted EMI the system shall meet the requirements of CENELEC standards EN 50081-2.	<p>We note that obsolete standards are listed in the requirements. We therefore interpret the requirement as that the following standards will be applied:</p> <p>EN 50121-3-2 for onboard signaling apparatuses EN 50121-4 for wayside signaling apparatuses EN 61000-6-2 and EN 61000-6-4 for equipment installed in industrial environment.</p> <p>We kindly ask to confirm whether our interpretation is correct</p>	Confirmed. The corresponding EN,IEC Standards (IEC 61000-4- series & EN 55011 regarding method of measurement , would be applicable.
529	Part 2	Particular Specifications	8.4.9	For power supply, susceptibility and generation, Earthing / bonding, the equipment shall conform to A200 FRSenv.02 version 00.03.	<p>We note that obsolete standards are listed in the requirements. We therefore interpret the requirement as that the following standards will be applied:</p> <p>EN 50121-3-2 for onboard signaling apparatuses EN 50121-4 for wayside signaling apparatuses EN 61000-6-2 and EN 61000-6-4 for equipment installed in industrial environment.</p> <p>We kindly ask to confirm whether our interpretation is correct</p>	Confirmed.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
530	Part 2	Particular Specifications	5.23.10.10	Optical fiber backbone: h) The spur optical fiber to the equipment rooms and control rooms shall be provided by respective system contractors. Signalling contractor shall terminate these contractors spur cable inside the slice box cabinet. Cabinet.	Kindly confirm the Specifications for spur Optical fibre cables.	The Signalling spur cable cores can be decided based on the signalling contractor design. For other systems, the spur cable will be provided by the corresponding contractors. The other specification of the spur cable shall be same as that of any optical fibre cable mentioned in the tender.
531	Part 2	Tender drawing	N/A	Test track	Kindly confirm test track length for the both Depots.	Refer BidDrawings
532	Part 2	Particular Specifications	5.8.9.4	The mainline point machine shall be non-trailable and the depot Point machine shall beailable in nature. Mainline point machine shall be used in Depot test track. In Depots, apart from test track, one more point (in each depot) shall be equipped with mainline point machine, which will also be used for training purpose.	We understand that for mainline Non-Trailable PM to be provided. And recommend to use Non-trailable only for Depot which shall follow IRS specification. And depot point machine shall work on 110 V DC. We request you to modify the clause accordingly	Refer Addendum
533	Part 2	Particular Specifications	5.8.16.1.3	The signalling contractor shall provide an auto changeover switch inside the signal equipment room which automatically switches over if one cable goes faulty or power not available in one cable. The provision for manual change over shall also be provided. The auto switchover shall be fast and effective that the PDC shall not have any effect because of a cable failure.	If redundant power cable also connected in parallel, then why need auto changeover switch. Please clarify.	Bid condition prevails
534	Part 2	Bid drawing	Corridor 3: Alignment Drawing	N/A	a)Platform Length not mentioned. b)Stations name sequence and number of stations mentioned in Tender document not matching with Corridor 3 civil track alignment drawing. e.g Madhavara High School instead of Murari Hospital, Anna Flyover instead of Gemini. Kolthur Jn Metro does not exist in C3 alignment. c)Total 48 station in alignment, but 49 nos stations in the station list. d)Pattalam, Thirumayilai Metro station having single line and only one platform.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
535	Part 2	Bid drawing	Corridor 3: Alignment Drawing		<p>1. Platform Start/End or length not mentioned.</p> <p>2. Pt. SRJ for DN line not mentioned at Murari Hospital, Otteri etc.</p> <p>3. Pattalam,Thirumayilai station showing single line and one platform, but mentioned different UP & DN line Platform Centre chainage. Input Track plan is ambiguous. To be clarified by customer.</p> <p>4. No SRJ shown in (CH: 7+ 872.000 m to CH: 8+ 200.000 m) – SRJ required on this portion. How two lines (UP & DN) are connected without Point into a signal line Pattalam?</p> <p>5. No SRJ shown in (CH: 18+ 765.000 m to CH: 19+ 137.000 m) – SRJ required on this portion. How two lines (UP & DN) are connected without Point into a signal line at Thirumayilai?</p> <p>6. Sembiam, Purasaiwakkam, Sterling Road with chainage Jump (additional CL chainage) is not clear.</p> <p>7. Dead End chainage of third line at Purasaiwakkam is not mentioned. Buffer stop signal position cannot be determined.</p> <p>8. Okkiyam Thoraipakkam: Scissor cross over utility at pocket track is doubtful. To be clarified by customer.</p>	Refer Addendum
536	Part 2	Biddrawing	Corridor 5: Track Alignment Plan		<p>EV-03:</p> <p>1.At Venugopal Nagar double tracks are shown and ended at Ch:1200. Only centre line of Viaduct has shown. Then no tracks shown from 1200 to Ch:3560 and from 4840 to Ch:7200. Separate UP & DN line chainages have not shown from Assisi Nagar to MMBT. Then Track started at CH: 3560 and ended at CH: 4840.</p> <p>2.Pt. SRJ not shown at Anna Nagar Bus Depot, between CH:12640 & 12980. Pocket track Dead End chainage not mentioned. Hence, Buffer Stop signal Chainage at two ends of pocket cannot be determined.</p> <p>3.Route Map is not matching with Tender doc. Station package list. C5-EV 03 has shown as ECV 03 in tender doc.</p> <p>4.Venugopal Nagar does not exist in tender doc. List.</p> <p>5.Platform length/chainage not mentioned.</p> <p>UG-06:</p> <p>6.Track not shown from Ch: 12000 to 12060, Ch:13000 to 16210. Only centre line has shown</p> <p>7.Platform length/chainage not mentioned.</p>	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
537	Part 2	Bid drawing	Corridor 5: Track Alignment Plan		ECV-02: 8.Alwar Thirunagar in C5 or C4, not clear. The common section of C4 and C5 Ch:19708 to CH:22527 9.A middle line has shown in between two lines at Mugaliwakkam & Puzhuthivakkam crossing, but not shown	Refer Addendum
538	Part 2	Tender drawing	Madhavaram Depot: Track Alignment Plan		1.In stabling line, Inspection bay, workshop line, ETU line CAL (Clear Available Length) is mentioned, no chainages are mentioned. 2.Chainages are not mentioned for entire depot Track Plan GAD. 3.Crossover at Venugopal Nagar not shown in C5 or C3 corridor GAD, but shown in Madhevaram Depot Track Plan. It is ambiguous and not sure that the crossover shown in Madhevaram Depot for Venugopal Nagar are valid or not. 4.SN01 -872.11m track for which purpose? 5.Any separate provision for 6 car and 3 car in stabling line is required? 6.SPKS for Depot zoning diagram is not available.	Refer Addendum
539	Part 2	Particular Specifications	13.7	Transfer of Technical know-how for Installation, Testing, Commissioning, Repair and Maintenance 13.7.1 Contractor shall submit the detailed plan of transfer of technical knowhow within 60 days of the commencement date of works. 13.7.2 As part of Transfer of Technical know-how, the contractor shall set up of a fully equipped LAB/Repair Centre at a suitable place provided by the Employer. All furniture and equipments needed for this shall be supplied by the Contractor. 13.7.3 The contractor shall provide Required Jigs and testing tools shall be provided in LAB/Repair Centre. 13.7.4 The contractor shall propose the furniture and the jigs, testing tools/instruments etc. for the NoNO of Engineer. 13.7.5 Lab/Repair Centre/training centre shall include a model training room comprising of minimum equipment for stations such as testing platform for CBI, ATC and ATS (as a part of maintenance simulator), Point Machine, Signals, Axle Counters, Radio network for CBTC and VMS etc. 13.7.6 This Facility can also be availed by the Contractor with prior permission of the Engineer or the Employer for repair and maintenance of any cards/parts concerning the project during its association with project. 13.7.7 The Employer will nominate some of his personnel for Transfer of Technical knowhow for various sub systems. These personnel's will be deployed at site under the administrative control of Employer. The Contractor shall involve these personnel in installation, testing and commissioning, repair, and maintenance, so that they may gain in depth knowledge of system installation, configuration, testing, fault finding and failure rectification.	Repairing of the equipment requires a well equipped closed environment which can be possible in factory setup only. Different equipment requires different types of setup and tools.Hence request you to kindly delete this clause.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
540	Part 2	Particular Specifications	12.9.3	<p>The simulator shall emulate the following system using real sub-system and simulators:</p> <ul style="list-style-type: none"> • Interlocking system • Object controller including signal, point machine, Train detection equipments. • Trackside ATP • On-board ATP with all accessories viz Balise antenna, DMI, radio antenna, radio modem etc. • ATS servers at OCC/BCC • Wayside controller including radio access points. • Data Communication system including Network elements viz router, switches. • Various displays viz ATS, VDU, Train borne HMI etc. • Simulation of automatic Train control following the permitted and target speed (Train's cab). • Timetable operation, timetable editor • Simulation management, configuration tool for Trainer • Replay function • Evaluation and assessment function 	We recommend to provide Simulation based solution instead of real sub system for this requirement. Please confirm, if this is acceptable?	This is a standard requirement in Indian Metros. Pls find the clause 12.9.4, which demands for the hardware testing of the electronic cards, sub modules etc, which cannot be achieved by simulation only system. This requirement for hardware test bench (with required emulation/simulation facilities of associated inputs/outputs) has to be read in conjunction with clause 12.9.4
541	Part 2	Particular Specifications	5.5.1	<p>All Signalling and Train Control system equipments/ electronic cards shall be provided with a reset function to allow the failed equipment to reset and restart remotely as well as locally. This facility shall be available on CBI, Trackside ATC, On-board ATC, Central equipments-ATS, communication buses, Radio communication networks including switches, access points etc. This is apart from any automatic reset facility available in the systems.</p>	It is understood that hard/Soft reset function can be provided to meet the requirement.	Remote resetting facility can be a soft reset.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
542	Part 2	PS- Appendix 2P-1	2.4.10	Train Lines – The Signalling Contractor shall liaise with the Rolling Stock Contractor on the required number of Train lines to fulfil the functional requirements of Signalling. They will be verified and validated jointly during Testing & Commissioning phase. A provision of redundancy (100% redundant with path diversity) and adequate spares shall be provided for train lines post DLP (at least 10%). The RS contractor shall ensure that the connectors used in train line shall be of proven type with very high reliability and availability so that no momentary or permanent disconnection occurs when the train travels in high speed or in sharp curves.	It is understood that RS contractor is responsible to provide all ethernet lines for signaling within cab/inter-cab.	For ethernet cables, Please Refer to CLaus 2.13.1 of the appendix 2P-1. For train lines as well as ethernet connections, the reliability requirements for the functioning of the signalling system shall be furnished by the STC contractor to RS contractor in the design phase itself.
543	Part 2	Particular Specifications	5.8.7.1	The Signalling system shall stop all Train Consist movements in the area defined by the coverage of the SPKs when the SPKs is activated. The SPK functionality shall be implemented through the Interlocking system with a SIL 4 safety rating. This shall be applied to all Train Consist movement in UTO/DTO/ATO/ATP/RM/Cut-out Modes of Operation.	We understand once Staff Protection Key switch are activated the ATC system would immediately set to zero the maximum safe speed within the applicable section of track and would prohibit the entry of any CBTC train in UTO, ATO and ATPM mode of working. Please confirm our understanding.	Refer Addendum
544	Part 2	Particular Specifications	14.7.1	The Signalling contractor shall prepare and submit a comprehensive Operating Modes and Principles Document (OMPD). The document shall establish the principles related to system and interface design under normal, degraded and emergency modes of operation. For each operating principle the document shall describe the scenario, action to be taken by operator and system in a structured process flow chart. The document shall include as a minimum: a) operating functions at OCC/DCC/SCC/BCC viz timetable management, train regulation, peak and off-peak hours, integration with other systems (telecom, traction, rolling stock, PSD, Tunnel ventilation, E&M etc), maintenance management system etc. b) handovers between main and back up OCC; OCC and SCC/DCC etc c) operating roles of different personnel	We understand that this document will be prepared by customer, who will be controlling all the sub-systems of the project (Signalling, Telecom, Traction, Rolling Stock, SPD, etc) & not by S&TC contractor. Scope of S&TC contractor will be to support in preparation of OMPD document. We request you to modify the clause accordingly.	The STC contractor shall prepare the document duly taking inputs from all listed contractors. However CMRL will assist the STC contractor with all operation and maintenace related information, reviewing the document in all stages etc.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
545	Part 2	Particular Specifications	5.20.3	<p>The ATS system should provide as a minimum the following functions.</p> <p>Monitoring of signalling equipment</p> <ul style="list-style-type: none"> • Control of signalling equipment • Train detection and Train follow-up • Multi-Section Digital Axle Counter section management • Train identifier • PTI management • Inter-station stops detection management. • Automatic route setting • Delays and departure/arrival times of scheduled Trains management • Dwell and inter-station running times management. • ATS Train hold management • Door management (Rolling stock and PSD), • Skip stop station management. • Online timetable management • Delay distribution management <p>Manual shifting management.</p>	Please clarify what is meant by Manual shifting management	Manual shifting of Train ID/Identifier
546	Part 2	Particular Specifications	5.20.20	<p>Non-resettable counters and Operational Performance parameters</p> <p>5.20.20.1 The ATS system shall provide non-resettable counters for storing certain data on a permanent manner.</p>	The purpose and nature of these “counters” is not clear – please provide more description regarding the purpose of the counters and how they would be used.	<p>These software counter data will be used for various data analysis as well as for assisting in the decision making process for various maintenace activities.</p> <p>eg: To identify the number of operation a door motor has undergone.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
547	Part 2	Particular Specifications	5.7	Digitization and Realtime Data transfer 5.7.1 General 5.7.1.1 The data generated within the signalling system, and which are collected through various system interfaces shall be made available for the external data analytics platforms in real time manner. 5.7.1.2 The data which needs to be transferred includes data pertaining to Operations, as well as system health related data. 5.7.2 Ownership of Data 5.7.2.1 The employer solely and exclusively owns and retains the right, title and interest, whether express or implied for the operational and system related data generated in the system. 5.7.2.2 The contractor shall provide the administrative rights for the access to the data to the employer, who is the sole owner of the data. 5.7.3 Architecture 5.7.3.1 The contractor shall install and commission data transfer server, which interfaces with the external data analytics platforms. 5.7.3.2 The Contractor shall provide two identical data transfer servers installed and commissioned- one in OCC building and another at BOCC building. All prescribed data shall be transferred to both the servers identically irrespective of which ATS servers are functional. 5.7.3.3 The communication from ATS server to the Data transfer server shall be unidirectional and the contractor shall devise certified Hardware means of ensuring that the communication is unidirectional (e.g.: Communication diode etc.) 5.7.3.4 The contractor shall provide the APIs for integrating minimum 99 external servers to which the data can be transmitted with necessary authentication. The servers shall be either physical servers or cloud servers connected over	As all data is already collected at subsystem level. Hence we request you to delete this clause.	This data transfer facility is to facilitate external systems to access this data (historical as well as real time). eg: A data analytics platform to analyse this data for any traffic related studies. Bid conditions will prevail.
548	Part 2	Particular Specifications	11.16.3	The contractor shall appoint an Independent Safety Assessor outside their organization for the assessment and issuance of safety certificate. This is in addition to ISA appointed by CMRL.	Internally our safety team validated all documents and externally ISA appointed by employer will verify and validate the document. Hence there is no requirement of internal ISA. Request you to kindly delete this clause.	Bid condition prevails
549	Part 2	Particular Specifications	5.14.2.3	The command from ATS shall have double confirmation from the Operator in ATS workstation and shall conform to SIL 2 requirements.	Emergency opening of train door from OCC is a command given by train operator. Hence does not require double confirmation. Kindly delete the clause.	This command is from OCC by a traffic controller. This clause is not about the train operator opening the door from the emergency operator desk of the train. This command will be invoked by the OCC operator only when the train is over the PSD part of the platform that is accessible from the train side.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
550	Part 2	Particular Specifications	5.20.16.14	RPS at BOCC: The RPS at BOCC shall be able to display the inputs from systems of Phase 1 also apart from phase 2. The allocation of the screen space/cubes for various systems viz signalling, on-board CCTV, Power SCADA, way-side CCTV shall be dynamically selected by the Operator. The RPS system shall be capable of accepting the feeds from various systems of Phase 1 and Phase 2 and display the feeds on the RPS system.	As this RPS is dedicatedly for Phase-2, Request you to amend the clause as “RPS at BOCC: The RPS at BOCC shall be able to display the inputs from systems of phase 2. The allocation of the screen space/cubes for various systems viz signalling, on-board CCTV, Power SCADA, way-side CCTV shall be dynamically selected by the Operator. “	The video wall for BOCC shall be able to display the inputs from Phase 1 and Phase 2 systems. For this purpose, necessary co-ordination needs to be maintained with the Phase 1 Contractor regarding the Signaling, Power SCADA & CCTV inputs.
551	Part 2	Tender drawing	DDC-P2C4-05-ALN-DR-C4E-10001-01	Corridor 4: ECV-01 & ECV-02 HORIZONTAL AND VERTICAL ALIGNMENT (UPLINE, DOWN LINE & POONAMALLEE DEPOT)	Please provide with the mentioned drawing.	Refer Addendum
552	Part 2	Tender drawing	DDC-P2C5-ECV02-ALN-02100-01	Corridor 5: ECV-02 HORIZONTAL & VERTICAL ALIGNMENT INDEX LIST	Please provide with the mentioned drawings.	Refer Addendum
553	Part 2	Tender drawing	DDC-P2C5-ECV03-ALN-03100-01	Corridor 5: ECV-02 HORIZONTAL & VERTICAL ALIGNMENT INDEX LIST ECV-03 HORIZONTAL & VERTICAL ALIGNMENT INDEX LIST	Please provide with the mentioned drawings.	Refer Addendum
554	Part 2	Particular Specifications	5.2	Control Terminal with VDU Display- SIL 4 Workstation	Workstation are not SIL 4 system. Request you to delete the clause.	Refer Addendum
555	Part 2	Particular Specifications	4.1.6	The Rear Projection System Large Display Screen for the Power SCADA at OCC and BOCC shall be provided by the Signalling contractor. The number of cubes shall be decided based on the particular specification of signalling contract as well as the ergonomics study by Signalling contractor. At OCC the screen shall be exclusive to Power SCADA. In BOCC, the Power SCADA will be displayed in the common large screen. The PS/OHE contractor shall provide the SCADA feed for display in OCC and BOCC in suitable format following network and communication parameters as sought by Signalling contractor.	As this is pure signalling contract, Rear Projection System Large Display screen shall not be part of Signalling package. Hence request you to kindly delete this clause	The complete video wall arrangement for all systems is part of the signalling package in OCC and BOCC.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
556	Part 2	Particular Specifications	5.8.9.19	Pre-emptive Automatic Operation of Points by ATS: The ATS considering the next scheduled movement (involving points in mainline and the points connecting stabling line and mainline involving the point) shall operate the points in advance. This is to avoid any delay in route setting on a later time as well as to avoid the requirement of simultaneous operation of a greater number of points. The Logic for this preemptive operation of Points by ATS shall consider the subsequent movement of trains involving the point which includes the flank protection also. Automatic Operation shall be undertaken when the Point involved is not occupied, not locked as a part of any route and is not in a work zone or evacuation path or is not under maintenance.	How much advance operations is expected as per the requirement. Please clarify.	The time and the cycles of attempt by the system as a pre-emptive measure as mentioned in the clause shall be decided in the detail design phase. The logic and timing related parameters shall be such as to avoid any delay in route setting because of the point operation time and to avoid simultaneous operation of greater number of points.
557	Part 2	Particular Specifications	N/A	N/A	Please let us know if rolling stock manufacturer will be taking care of all the train related failures or needs to be considered as ATC On-board inputs from rolling stock for the failure statuses for GoA4 functionality.	The failure and health status of the train related failure is to be provided to signalling system by RS system, which the signalling system shall consider for GoA 4 functionality. Apart from the above, the status of the train equipemnts needs to be dispayed in ATS for the Operator to enable him to take suitable decisions and remote commands. The details need to be agreed with the RS Contractor, as part of the interface process.
558	Part 2	PS- Appendix 2P-1	2.13.1	INTERFACE- Division of Responsibility Interface between ATP/ATO/UTO with train braking and propulsion systems for automatic braking, acceleration and deceleration. STC Contractor: ZVR & redundant EBR relays to be supplied by the STC Contractor.	ZVR and EBR relays are generally provided by Rolling Stock contractor. As S&T contractor we will provide the on-board vital output signals to energise these 2 relays. In this context we would request you to remove the ZVR and redundant EBR relays scope of supply responsibility from S&TC contractor and put the same 2 relays scope of supply under the scope of rolling stock contractor.	ZVR and EBR are relays required for the vital output from the train borne ATC system to the Rolling stock. The relays (redundant) shall be provided by STC contractor and the dry contacts shall be provided for RS system to read the Vital outputs. Further details to be jointly desgned as a part of the Interface activity.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
559	Part 2	Particular Specifications	5.14.2.3	The command from ATS shall have double confirmation from the Operator in ATS workstation and shall conform to SIL 2 requirements.	<p>Please clarify the following:</p> <p>1.Is this facility only required emergency opening of Train Passenger doors?</p> <p>2.When this is emergency operation and will be carried out by operator then why double confirmation is required with SIL2 compliance.</p> <p>Request you to kindly amend/delete this clause.</p>	<p>This facility as per the clause mentions about the opening of the train doors from OCC/BOCC. This is for using in emergency situations when the train doors, which ever available in the openable part of the PSD can be opened without any need for an staff to be physically present on the platform.</p> <p>Double confirmation shall be used for ensuring that the command is not provided by mistake by the operator/system. All safety related and vital commands being executed through the ATS Works Station as well as interlocking Works Station, will need this double confirmation from the Operator.</p>
560	Part 2	Particular Specifications	5.8.12.1	The maximum number of trains that can be processed by a single wayside controller shall be between 10 to 40. This shall be ensured with signalled headway of 90 sec and shall consider all train bunching scenarios of the trains in case of any failure.	Please clarify the reason for restricting the number of trains of single wayside controller. One wayside controller can support more than 40 trains also.	This restriction is with a view the minimise the impact on operations due to a way-side controller failure. It is noted that IEEE 1474 refers to a range of 10 to 40 trains.
561	Part 2	Particular Specifications	5.18.2	The numbering plan is to be proposed by contractor during design stage. It shall consist as a minimum of the destination number and the service number. The ID shall be limited to 6 or 7 digits.	Request you to kindly amend it as “ ID shall be limited to 4 or 6 or 7 digit.	Bid condition prevails
562	Part 2	Particular Specifications	5.8.10.3.10	The length of any axle counter section shall not be more than 900m	Please clarify why the length has been restricted to 900m.	<p>Refer Addendum</p> <p>The clause 5.8.10.3.7 and 5.8.10.3.8 also to be read in conjunction with this clause.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
563	Part 2	Particular Specifications	5.8.9.18	Point operation staggering control shall be provided to avoid simultaneous starting of many numbers of Points. The Simultaneous commencement of operation of Points shall be limited to a fixed number which needs to be identified as a part of the Design and the Capacity of the UPS. Additional points, which need to be operated to set a route shall be staggered to ensure that the load on the UPS is kept within the limit. This number of Point machines allowed to be operated simultaneously shall be identified separately for each Depot and Mainline. It shall be noted that the design shall ensure that the staggering of point operations doesn't not affect the headway in the mainline. The complete proposal with calculation shall be submitted to the Engineer for NoNO in the design phase	Please clarify, How many point shall be allowed at a time.	The Simultaneous commencement of operation of Points shall be limited to a fixed number which needs to be identified as a part of the Design and keeping in view the Capacity of the UPS
564	Part 2	Tender drawing	N/A	N/A	For all UG stations: Please clarify, if Additional Axle counter DP and Virtual Signals to be consider for TVS shaft/ section or not. Kindly note, Tunnel Ventilation Shaft/section (TVS) not mentioned/marked in GAD for Underground sections for all Corridors. It cannot be determined until the TVS sections are properly shown in Track plan.	The TVS sections are one for the platform zone and one for the track length between two adjacent platforms. If during detailed design, the need for additional ventilation sections is established, additional Axle counter DPs will have to be provided.
565	Part 2	Particular Specifications	5.8.11.3	The mainline signals shall be installed on the Main lines and depot entry/exit, test tracks according to their modes and features as follows: • At stations with point and crossing for point protection catering for bidirectional working • Depot entry/exit locations • Test tracks • Any suitable location as warranted by the interlocking design	At Depot entry three aspect signal is not necessary. Is the post-shunt with red main signal aspect would be allowed instead of three aspect signal.	Agreed

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
566	Part 2	Particular Specifications	5.8.7.1	The Signalling system shall stop all Train Consist movements in the area defined by the coverage of the SPKs when the SPKs is activated. The SPK functionality shall be implemented through the Interlocking system with a SIL 4 safety rating. This shall be applied to all Train Consist movement in UTO/DTO/ATO/ATP/RM/Cut-out Modes of Operation.	SPKS (SIL4) are used for Traction power and interfacing with interlocking. Please clarify the scope of SPKS	SPK is having no interface with traction power in this project. Clause 5.10 of the Particular Specification provides clear scope of the SPKS.
567	Part 2	PS- Appendix 2E	4.7.6.2	The necessary movement to the stabling lines or inspection bay lines for storage shall be automatically achieved with a minimum number of commands from the OCC. When Trains are to be put to sleep, the OCC shall be able to trigger the quiescent state only for Trains in the correct position in their stabling track. In this state, all systems shall be off except those that are required to awaken the Train for service, and other designated ancillary Train systems.	Please clarify how this will be achieved from “All systems shall be off except those that are required to awaken”	Needs to be identified and proposed in the Interface forum and design phase. The signalling equipments which is necessary for the safety of a stabled train and which is required for the wakeup needs to be kept ON. For RS system, Signalling system shall trigger the sleep and wakeup to RS system. The details of RS internal system of them which needs to be slept or kept alive can be decided in the Interface forum.
568	Part 2	Particular Specifications	5.8.11.8	Bi-directional operation shall be considered in sighting of the Line-side signals. Signals shall be sited to avoid confusion to the Train Operators and where they are necessary on adjacent tracks shall be located parallel with one another.	For bi- directional movement Virtual signal for all NIXL stations will be provided. For IXL stations Physical signals will be provided at the direction where Points crossover are exist. If Point does not exist in any one direction of a IXL station, instead of Physical signal Virtual signal can be used. Is the assumption correct?	The location of physical signals are covered in clause 5.8.11.3. For Interlocking related functionalities like route setting virtual signals can be used. The location of Physical and virtual signals needs to be identified in the design phase.
569	Part 2	Particular Specifications	5.8.11.13	Route indicators shall be LED matrix type capable of displaying – • M – For Main Line • L – For Left diversion • R-For Right diversion • S- For Siding. • D- For Depot	Where more than one movements are possible towards a particular side (left or right), how LED matrix will be provided? e.g. two movement at left side i.e. L1 & L2 can be provided in double matrix etc.	Refer Addendum. The exact position and clearances of the route indicator, duly meeting SoD requirements can be decided in the design phase.
570	Part 2	Particular Specifications	2.2.10.	Full height PSD will be provided in Underground stations and Half Height PSD will be provided in Elevated stations. PSDs will be provided for 3 car trains and shall be extendable to 6 car train length in future	Please clarify the PSD I/O to be considered separately for 3 Car only or 6 Car shall be also considered. Apart from this please clarify PSD door width.	The I/O for "3 car PSD" as well as for "Balance 3 car PSD" need to be catered in the Interface panel from Signalling side. Refer Appendix 2P-2 for detail Interface specification. PSD width will be(train door width + 600 mm).

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
571	Part 2	Particular Specifications	5.8.11.7	The mainline signals and route indicators shall be kept blank for trains in UTO mode. For trains in DTO, ATO, ATP, RM/ROS or cutout mode the signal and route indicators shall be lit.	Please clarify why signal need to be blank.	For passenger convenience.
572	Part 2	Particular Specifications	5.21.4.3	<p>The test track shall provide the following facilities as a minimum:</p> <p>a) Testing of the Train borne system.</p> <p>b) Checking calibration of the speed and positioning Sub-systems</p> <p>c) Testing stopping accuracy.</p> <p>d) Testing of Bidirectional Train wayside communication</p> <p>e) Testing of the Train operator HMI</p> <p>f) Testing of Platform Screen Door interface.</p> <p>g) Testing of VMS interface</p> <p>h) Testing of Remote commands and alarms between ATS and train borne.</p> <p>i) Testing of On-board Passenger information systems</p> <p>j) Testing facility for any other operational requirement brought out during</p>	Virtual PSD at Test Track to be provided. No I/O bits are required for Test Track PSD in Interlocking. The scope of simulation under PSD contractor. Is this assumption correct?	The Signalling Interface for PSD needs to be tested in the test track. The signalling contractor apart from the SIG-PSD interface equipment, has to provide a PSD emulation equipment, in which the Door open, close, ADCL etc can be emulated along with indications. This facility is to test the signalling equipment capability to operate PSD. The simulator shall be inside the equipment room.
573	Part 2	Particular Specifications	5.23.8	(e) Network security -(e) All essential equipment elements of the Network shall achieve a security, common criteria certification, of EAL (Evaluation Assurance Level) Level 3 or above in compliance to ISO/IEC 15408 under an internationally recognised scheme and assessed by an accredited independent test house.	EAL certification criteria is more relevant for the IT infrastructure devices. For the Industrial critical infrastructure part, followed equivalent standard IEC62443-4-2 & 4-2. Kindly change it to EAL or equivalent.	<p>IEC 62443 standard, equivalent provisions for EAL Level 3 can be adopted.</p> <p>The contractor shall submit a clear documentation regarding the equivalence of both standards and requirements to the Engineer for NoNO.</p> <p>It may also be noted that TS 50701 also needs to be complied with as per clause 4.7.2</p>
574	Part 2	PS- Appendix 2P-1	2.4.40	SIG Contractor shall provide the Communication Infrastructure to Transfer and display of CCTV streams from on-board to work stations at OCC, BCC, DCC & SCR (within one station vicinity of the train on either ends).	How many on-board CCTV cameras will be installed per a trainset (in total 138 trainsets)? Please also specify the camera model in case it is available.	Currently approximately 22 cameras are envisaged per 3 car train. An additional margin shall be kept as the numbers may marginally vary as a part of the design phase of rolling stock. Basic details of the camera resolution is provided in Appendix 2P-1 and the model of camera is part of detail design of Rolling stock which STC contractor may obtain in the Interface forum.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
575	Part 2	PS- Appendix 2P-1	2.4.45	The integrated CCTV system shall support transmission of video streams (from multiple cameras/NVR live or recorded) from train and shall support for changing the video frame rate and resolution for good image quality and in limited bandwidth available for CCTV transmission. Recording of CCTV footages in train's NVR shall be at minimum 1920x1080 and minimum 30 frames per second Live Streaming : Dynamically allocated based on the viewing requirement from OCC SW	How many NVR will be installed per a trainset (in total 138 trainsets)? Please also specify the NVR models and storage size in case they are available.	2 Nos of NVR is envisaged per train. The model of NVR and associated details can only be identified in the design phase of rolling stock, which the STC contractor may obtain through Interface forum.
576	Part 2	PS- Appendix 2P-3	4.1.18	(i) Increase in Dwell time at Over-Crowded platform: The CCTV system shall provide the trigger to ATS system regarding the overcrowding on the platform in a real time manner. The ATS system shall advance the train arrival on the platform by dynamically reducing the run time reserve scheduled in the timetable between the previous platform and the platform where crowded is reported. The departure from this platform shall be on the scheduled departure time, thereby effectively increasing the dwell time on the crowded platforms with a limit of the "maximum dwell time" set for the platform. The threshold for ATS to act based on the crowding level shall be configurable by the Operator in ATS system.	The requirement request the CCTV system provides a trigger once the boarding of passenger is complete. Is any CCTV camera on platform, onboard camera or any other sensors available to monitor crowding level on platform? Please specify the quantity, device model, and relevant specification.	This clause is NOT related to the early departure of the train once the boarding is completed. This clause is regarding the early arrival of train based on the crowding data obtained from the CCTV system on a real time basis. Crowding level on the platform will be monitored by the CCTV system of station, Supplied by Telecom contractor. CCTV system will provide the crowding level to ATS (in 3 or 4 categories). ATS shall have provision to control the run time reserve for early arrival of trains based on the crowding level category. The same shall be user configurable.
577	Part 2	PS- Appendix 2P-3	4.1.18	ii) Early Departure control at platforms: The CCTV system shall provide trigger for ATS once the boarding of passengers is complete for a platform. The ATS once receives this trigger shall start the train early from the station. The time saved by starting early from the Platform shall be dynamically added to the run time reserve between the platform to the next platform and to be consumed to increase the traction energy savings. ATS shall ensure that the "minimum dwell time" set for the platform is made available. The CCTV system shall be capable of distinguishing various category of passengers on the platform namely passengers deboarded from the train, passengers waiting for next train, passengers boarding the train apart from platform staff for the effective working of this facility.	The requirement request the CCTV system provides a trigger once the boarding of passenger is complete. Is any CCTV camera on platform, onboard camera or any other sensors available to monitor if the boarding of passenger is complete? Please specify the quantity, device model, and relevant specification.	CCTV system at stations supplied by Telecom contractor will sense the completion of boarding and provide trigger to ATS in a realtime manner. The details and the precise trigger commands to be identified in the Interface forum with Telecom Contractor.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
578	Part 2	Particular Specifications	5.23.8	(e) Network security (d). Protection shall be provided against such threats, as listed below, which are in accordance with classifications as defined by ITU-T: • Masquerade ("spoofing"): pretence of authorized status by an impostor.	IP Masquerade is solution specific and there are other equivalent methods also to support. So Kindly rephrased – “Masquerade ("spoofing") if applicable: pretence of authorized status by an impostor.”	Refer Addendum
579	Part 2	GS- Appendix 2A	12	Access Dates	Please specify the access date for BCC	Refer Addendum
580	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	N/A	As there are 3 contracts of Rolling stock (ARE 03, ARE 04 & ARE 02). We are not sure about the Train types/manufacturer. Please specify Also the location/country where Installation of on-boards to be done. Please specify	Currently Bid condition of ARE02 envisages 75% of the trains manufacturing in India. Currently Bid condition of ARE03 envisages 100% of the trains manufacturing in India. ARE04 contract, details are yet to be formalised. Since all the Rolling stock contracts are yet to be finalised/awarded, STC contractor shall do reasonable assumptions on this regard.
581	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	N/A	For stage 2 Final design completion date is given as 906 days similar to stage 5,6 &7. But for stage 2 access dates for track side is between 733 and 943 days and for rooms between 741 and 832 days. Time duration provided for installation is very less considering design and access dates. Kindly relook in to it.	For stages other than stage 1, the hardware type tests and manufacturing, delivery can be initiated even before the completion of the design of that particular stage. The design activities for subsequent stages may be more on the software side and configuration of equipments. The completion of the last design activity is not likely to affect the supply and installation activities as well as initial testing activities.However please refer addendum for the revised schedule
582	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	N/A	Key dates for BCC is not provided. Kindly clarify	Refer Addendum
583	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	N/A	As per Tender notice contract completion date is 1640 days + DNP 730 days. But for stage 6 & 7 the completion of SAT testing and issue of completion certificate is crossing 1640 days. Please clarify	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
584	Part 2	GS- Appendix 10	Site Accommodation for Engineers	N/A	We understand Engineer's main office need to be erected in anyone of the area provided to contractor in depot. Regarding the section offices (3 Nos) please specify the locations which will be provided by employer.	Refer Particular specifications Clause 3.7.3. The addendum to this clause may also be seen
585	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	SIG-ARE 02-KD-003 - Complete delivery of the Signalling train borne equipment to the Rolling Stock Contractor's car building factory for the proto type rake (3 cars) installation (NTP - 877 days) SIG-ARE 02-KD-004 - Complete joint installation and testing of Signalling train borne equipment for the proto type rake (3 cars) at the car builders factory (NTP- 856 Days)	Delivery date i.e. NTP + 877 days is more than Joint installation & testing i.e. NTP + 856 days. Installation and testing can't be complete without complete delivery. Can we consider SIG-ARE 02-KD-004 - it as NTP + 936 days approx..?	Refer Addendum
586	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	SIG-S3-KD-010 - Achieve Operational Acceptance for Stage 1 Revenue Service	As SIG-S3-KD-010 – is under stage 3. So, can we consider it is to be Achieve Operational Acceptance for Stage 3 Revenue Service instead of Achieve Operational Acceptance for Stage 1 Revenue Service.	Refer Addendum
587	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	SIG-S5-KD-007 – Complete System Acceptance Test and Integrated Testing of the Signalling system (including part for Madhavaram Depot operation) for Corridor 3 UG 02 NTP +1499 days SIG-S5-KD-008 – Issue of Completion Certificate including safety case (Including conditions for O&M) for Stage 5 Revenue Service NTP +1499 days	Date for SIG-S5-KD-007 & SIG-S5-KD-008 – is same NTP +1499 days (SAT completion, safety case submission & Approval is on same date ?)	For stages other than stage 1, the hardware type tests and manufacturing, delivery can be initiated even before the completion of the design of that particular stage. The design activities for subsequent stages may be more on the software side and configuration of equipments. The completion of the last design activity is not likely to affect the supply and installation activities as well as initial testing activities.However please refer addendum for the revised schedule
588	Part 2	GS- Appendix 2B	Contract Key Dates & Completion dates	SIG-S2-KD-001 – Complete Final Detailed Design Submission for the Stage 2 in accordance with Specification NTP +906 days Finish date for last access is NTP +832 Access Date for Signalling Rooms at Corridor 5 - ECV 02_BUTT Road Station & Adambakkam Station	Without completion of Final Design, how can we start installation (as per last access date), Please suggest.	For stages other than stage 1, the hardware type tests and manufacturing, delivery can be initiated even before the completion of the design of that particular stage. The design activities for subsequent stages may be more on the software side and configuration of equipments. The completion of the last design activity is not likely to affect the supply and installation activities as well as initial testing activities.However please refer addendum for the revised schedule
589	Part 2	General Specifications	N/A	N/A	Can you specify the lead time/ number of days by which documents will approved once submitted for approval.	Refer Addendum to 13.8.3 of GS

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
590	Part 2	General Specifications	2.1.4	The Employer and the Engineer shall designate 3 nos. of each of their computers for installation, by the Contractor at the Contractor's cost, of software programmes that the Contractor intends to use for the design, programming, production of drawings, etc. All software shall be originals and licensed by the manufacturer and issued at the Contractor's cost.	It is understood that only the SW licenses for program & drawing for 06 nos. of work stations are under the contractor's scope. Please confirm our understanding?	Confirmed.
591	Part 2	General Specifications	6.1.4	(1) 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	It is understood that license cost for defined quantity shall be borne by Employer	Bid conditions will prevail.
592	Part 2	General Specifications	9.1	The Contractor shall provide and maintain acceptable storage facilities exclusively for the CMRL Phase 2 Permanent Works, equipment and materials of all kinds intended for use in carrying out the Works or for incorporation into the Works. Contractor.	We understand that employer shall be providing the rent free plane surface land in line with clause 3.7.3.1 of Part-2 - Section VI A	Kindly Refer the storage land which will be provided by the employer (rent free) till the project execution period in the PArticular conditions Clause 3.7.3.1
593	Part 2	General Specifications	13.8.3	The Engineer response to the submission will normally be made within 30 calendar days of receipt of the submission, The Engineer may extend the Notice of No Objection period depending on the amount of documentation accompanying the submission.	Proposed to modify as below – “The Engineer response to the submission will normally be made within 15 calendar days of receipt of the submission, The Engineer may extend the Notice of No Objection period depending on the amount of documentation accompanying the submission.”	Refer Addendum to 13.8.3 of GS
594	Part 2	GS- Appendix 7B	1.1.3	The Contractor Shall develop, BIM Model from level of LOD 300 to LOD 500 (As Built).	We understand that all the required software & licenses with provided by employer's designated interface contractor for developing BIM model from Level LOD 300 to LOF 500.	The software and licence are in the scope of the STC Contractor, only the models will be shared by the respective interface Contractor for necessary updating by STC contractor
595	Part 2	GS- Appendix 7B	1.6	Coordinated Combined Service Model (CCSM) Submission	We understand that all the required software & licenses with provided by employer's designated interface contractor to implement Coordinated Combined Service Model (CCSM)	The software and licence are in the scope of the STC Contractor, only the models will be shared by the respective interface Contractor for necessary updating by STC contractor
596	Part 2	GS- Appendix 7B	1.7	Clash Detection Management	We understand that all the required software & licenses with provided by employer's designated interface contractor to implement Clash Detection Management	The software and licence are in the scope of the STC Contractor, only the models will be shared by the respective interface Contractor for necessary updating by STC contractor

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
597	Part 2	GS- Appendix 8	1.1	The Contractor shall provide within the Site / Works Areas, at other locations agreed with the Engineer, the compounds and facilities for the Employer, the Engineer, the Contractor as required including land for Offices, Material Stores, workshops etc.,	We understand that employer shall be providing the rent free plane surface land in line with clause 3.7.3.1 of Part-2 - Section VI A	Kindly Refer the land (for the site office and the storage facility) which will be provided by the employer (rent free) till the project execution period in the Particular conditions Clause 3.7.3.1
598	Part 2	GS- Appendix 10	1	The Contractor shall provide accommodation for the Engineer's staff in accordance with the following schedule of offices •Total area (Main Office) 300 sq m •Section Offices (3 No) - Total area of offices 100 sq m Each Office •Meeting rooms shall be fitted with flat screen 55in TVs suitable for projection and video conferencing. •The Contractor shall provide all Office Furniture. •Car Parking spaces to be provided , -10 No spaces at the Engineer's main office and -5 No at each of the section offices. All spaces to be shaded.	We understand that employer shall be providing the rent free plane surface land for the construction of storage facility at suitable location of the site	Kindly Refer the land (for the site office and the storage facility) which will be provided by the employer (rent free) till the project execution period in the Particular conditions Clause 3.7.3.1
599	Part 3	Particular conditions	Contract Data # 14	Performance Security The Performance Security shall be in the form of a Bank guarantee, in the amounts of 10% of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount	Applicable percentage to be reduced to 3% in pursuant to Ministry of Finance under Government of India notification under "Amtanirbhar Bharat Package 3.0"	Bid condition prevails
600	Part 2	Particular Specifications	3.8.2	The contractor shall appoint an Independent Safety Assessor from their side to assess the system safety requirements and issue the safety certificate.	In most of the projects, Independent Safety Assessor (ISA) appointed by Employer. Appointment of multiple ISA lead to conflict and project delay during project execution. It's beneficial to appoint one ISA from employers end to expedite the project execution. So it's advised to appoint one ISA from employer side.	Bid condition prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
601	Part 2	Particular Specifications	4.3.5	<p>The Reliability measure for the Signalling & Train Control system shall be mean time between maintenance actions (MTBMA). The Signalling & Train Control system shall achieve MTBMA of no less than 7 days per 12 route Km of the Line. MTBMA is the average time between maintenance being required on a piece of equipment, sub-system or a system, The equipment shall be clubbed as (a) Trackside ATC (b) On-board ATC (c) ATS (d) CBI including Multi-Section Digital Axle Counter, signal, point machine etc. (e) TWC. MTBMA of 7 days shall be achieved for each group. MTBMA includes both preventive and corrective maintenance.</p>	<p>MTBMA target given at Signalling and Train control system is no less than 7 days per 12 km line and same target has been given at subsystem level also (i.e.7 days per 12 km route). As per reliability theory, system level target shall be less than that of lower target at its subsystems level. Moreover, failure in meeting MTBMA requirement at one subsystem level will lead to failure of RAM demonstration at system level.</p> <p>Can employer check and confirm the targets at System level and its subsystems level?</p>	Refer Addendum
602	Part 2	Particular Specifications	4.4.3	<p>Availability Requirements: The availability figures shall be met by the Signalling & train Control System per 12 route km approx. of the line. For calculation purpose, only relevant failures viz failure of track detection device, signal, point machine, interlocking, on-board ATC, Balise, ATS, bidirectional communication etc. shall be covered. The discretion of determining delay on account of any relevant failure rests solely with the Engineer and shall be final. The delay is calculated by the time lost by the first affected train due to a relevant failure. The determination of delay shall be further developed during DLP.</p> <p>iii)Delay to train service exceeding 30 minutes, or closure of Signalling /ATP functionality for 900m on both up and down lines in the normal direction of travel for more than 2 hours, or implementation of single line working for a period of 1 hour or more. MTBSAF-200,000 hours</p>	<p>MTBSAF target (200,000hrs) provided for delay to train service exceeding 30 minutes cannot be achieved even without a single failure over DLP at System level. To meet this target, contractor have to perform RAM demonstration for 30 years without a failure (considering 18 hours service per day).</p> <p>Considering DLP period of 2 yrs, RAM demonstration of such failure category is not practical.</p> <p>Can employer check and confirm on these targets?</p>	<p>The estimation of the RAMS figure shall be submitted as a part of the design stage.</p> <p>The failues which are of higher category which may not be able to be demonstrated within the DNP duration of the stage, the employer has the right to observe the performance in respect of that category of failure for an exnteded period (till the last stage of DLP, as required) . Failure to demonstrate the acheivement of failure rate, within the extended period will have an impact on the release of Performance Bank guarantee.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
603	Part 2	Particular Specifications	5.2	<p>Control Terminal with VDU Display- SIL 4 Workstation</p> <p>5.2.1 The control terminal with VDU displays (Workstation) shall consist of:</p> <p>a) Colour VDU monitors of 22 inches LED/TFT, and a suitable equipment to drive the VDU.</p> <p>b) A keyboard & mouse or digitiser</p> <p>c) Suitable interface to continuously display the current position/ status of various field equipment and track section.</p>	<p>VDU Display Workstation is a COTS (Commercial Of The Shelf) item. Its non-Hitachi item procured from external vendor. Safety Integrity level (SIL-4) not applicable for this item. Requesting employer to revisit this clause and modify it accordingly.</p>	Refer Addendum
604	Part 2	Particular Specifications	6.4.3.4	<p>Development Process of ATS and ATO systems shall be designed, manufactured and validated to Safety Integrity levels as defined in the CENELEC standard EN50126, EN50128 and EN50129 as per the requirements for CBTC systems and shall be SIL 2 certified. The execution of safety critical commands pertaining to the interlocking system through the interlocking VDU at OCC & Stations, shall meet the requirements of SIL 4 level, as per above mentioned EN standards. Further, all potentially unsafe effects of safety-related functions performed by ATS and ATO shall be mitigated by mandatory interaction with SIL4 subsystems (ATP and CBI)</p>	<p>According to the CENELEC, the Safety Integrity Level (SIL) is a concept applicable to the Functionalities not to a System. According to our experience, the development of ATS SIL -2 will to applicable for the Safety Function that aims to put the system in a more permissive state.</p>	All functionalities of ATS shall comply to SIL 2
605	Part 2	Particular Specifications	11.12.1	<p>The contractor shall provide Failure report analysis and corrective action system (FRACAS) software for the failure reporting and analysis. The software shall be off the shelf product customised for metro signalling application. The software shall be reputed in make and shall be already in use for similar application in other metros. The database for the FRACAS shall be stored locally.</p>	<p>As per the Safety Team, MS-Excel is sufficient for performing FRACAS activities. It has been already in use in all our projects. Can employer confirm continue to use MS-Excel for FRACAS activities?</p>	Bid conition prevails.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
606	Part 3	Particular conditions	53	<p>Payment of Retention Money</p> <p>Upon the request of the Contractor, the Employer after issuance of Taking-Over certificate of every Stage commissioning (Refer Cl. 4.4 (Brief Description of Stages) of Part 1 – Section IV, Bidding Forms) may release proportionate share of the withheld retention money specific to that Stage, on submission of Bank Guarantee for an equivalent amount in respective currencies from a Public sector bank (PSB) or Scheduled Commercial Banks in India or any Japanese Bank as listed under Schedule of Commercial Banks by The Reserve Bank of India (RBI), in the format annexed to the Particular Conditions.</p>	<p>Since retention Money is linked with TOC, hence release of proportionate share for relevant section of the TOC shall be unconditional.</p>	Particular conditions clause 53 prevails.
607	Part 1	ITB	2	<p>2.1 The Borrower specified in the BDS has applied for or received a Japanese ODA Loans from Japan International Cooperation Agency (hereinafter referred to as JICA), with the number, in the amount and on the signed date of the Loan Agreement specified in the BDS, toward the cost of the project specified in the BDS. The Borrower intends to apply a portion of the proceeds of the Loan to eligible payments under the Contract(s) for which these Bidding Documents are issued.</p> <p>2.2 Disbursement of a Japanese ODA Loans by JICA will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the applicable Guidelines for Procurement under Japanese ODA Loans specified in the BDS. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the Loan proceeds.</p> <p>2.3 The above Loan Agreement will cover only part of the project cost. As for the remaining portion, the Borrower will take appropriate measures for finance.</p>	<p>We request you to kindly modify clause 2 of the Source of Funds by incorporating the following additions highlighted below:</p> <p>2.1 The Borrower specified in the BDS has applied for or received a Japanese ODA Loans from Japan International Cooperation Agency (hereinafter referred to as JICA), with the number, in the amount and on the signed date of the Loan Agreement specified in the BDS, toward the cost of the project specified in the BDS. The Borrower intends to apply a portion of the proceeds of the Loan to eligible payments under the Contract(s) for which these Bidding Documents are issued.</p> <p>2.2 Disbursement of a Japanese ODA Loans by JICA will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the applicable Guidelines for Procurement under Japanese ODA Loans specified in the BDS. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the Loan proceeds.</p> <p>2.3 The above Loan Agreement will cover only part of the project cost. As for the remaining portion, the Borrower will take appropriate measure for finance.</p> <p>2.4 Notwithstanding the foregoing, the Borrower shall indemnify and hold the successful Contractor harmless against and from the consequences of any failure on the part of the Borrower to make payments to the Contractor under the Contract.</p>	Bid condition prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
608	Part 1	ITB	4.1	<p>A Bidder may be a firm that is a single entity or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a JV:</p> <p>(a) all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and</p> <p>(b) the JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during Contract execution.</p>	<p>We understand that JV includes a Consortium, including an unincorporated Consortium as well.</p> <p>We further understand that on award of the contract, the successful bidder can be an unincorporated consortium.</p> <p>Kindly confirm our understanding.</p>	<p>Bidcondition prevails</p> <p>Clause 1.2, 4.1 to 4.7 of ITB/BDS are self-explanatory.</p>
609	Part 1	ITB	<p>ELIGIBLE SOURCE COUNTRIES OF JAPANESE ODA LOANS</p>	<p>(1) The Eligible Nationality of the supplier(s) for procurement of all goods and services (including consulting services) to be financed out of the proceeds of the Loan shall be the following:</p> <p>(a) Japan and India in the case of the prime contractor; and</p> <p>(b) All countries and areas in the case of the sub-contractor(s).</p> <p>(2) With regard to Clause A. (1) above, in case where the prime contractor is a Joint venture, such joint venture will be eligible provided that the nationality of a partner is Japan and/ or India.</p>	<p>Please confirm in case of JV, whether a non-Japanese or a non-Indian Bidder is eligible to bid as the prime contractor?</p>	<p>Only Japanese partners and Indian partners are allowed to participate in the current Bid. This condition applied to all of the JV member as well, in case of JV. Refer A (3) of the Eligible source countries of Japanese ODA loans for definitions of Japanese partners and Indian partners. Bid Condition Prevails.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
610	Part 2	General Specifications	4.2	<p>Within 14 days of the installation of any software by the Contractor, the Contractor shall submit to the Engineer for retention by the Employer and the Engineer, two backup copies of the software, which shall include, without limitation:</p> <p>a) all licenses in favour of the Employer for their use. b) all source and executable codes; c) all design documentation relating to the software; and d) any specified development tools required for maintenance of the software, including, but not limited to,</p>	<p>We request you to kindly modify clause 4.2 of the Employer's Requirements by incorporating the following modifications highlighted below:</p> <p>Within 14 days of the installation of any software by the Contractor, the Contractor shall submit to the Engineer for retention by the Employer and the Engineer, two backup copies of the software, which shall include, :</p> <p>a) all licenses in favour of the Employer for their use, which shall be non-transferable non-reproducible, non-exclusive (without the right to sub-license) and for the purpose of this Contract Only. b) all source and executable codes of proprietary software shall be kept with an Escrow agent, appointed by both Parties upon mutually agreed written terms and conditions; ; c) all design documentation relating to the software; and d) any specified development tools required for maintenance of the software, including, but not limited to, editors, compilers and linkers.</p> <p>Provided further that Source Codes can be released to the Employer only in case: -an order is made for the winding up of the Contractor, the Contractor passes a resolution for winding up (other than for the purposes of a solvent reconstruction or amalgamation) or a liquidator of the Contractor is appointed; or -the Contractor is dissolved; or -the Contractor is an individual; or</p>	Refer Addendum on this topic

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				editors, compilers and linkers.	-the Contractor enters into a compromise or arrangement with creditors; or -the Contractor is declared bankrupt; or -any similar or analogous proceedings or event; -the Contractor ceases to carry on its business or the part of its business which relates to the Package without successors. Should Source Code be released, the usage shall be limited in connection with the performance of the Project and the connected specific geographical area of Chennai, India. The Employer shall keep the Contractor indemnified against any damage due to a breach of the above mentioned limits by him and/or third parties connected to him. In case of any Source Code access or disclosure, there will be no transfer of any property rights to the Party to which Source Code access or disclosure is given.	
611	Part 3	General conditions	1.4	The Contract shall be governed by the law of the country (or other jurisdiction) stated in the Contract Data.	Request addition of the highlighted portion to this clause as per FIDIC conditions:- The Contract shall be governed by the law of the country (or other jurisdiction) stated in the Contract Data (if not stated, the law of the Country), excluding any conflict of law rules.	Bid Condition Prevails
612	Part 3	General conditions	1.7	Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party: (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and (b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract	We request addition of the following highlighted portion to clause 1.7 of GCC as per FIDIC conditions:- Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party: (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and (b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract without the prior agreement of the other Party.	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
613	Part 3	General conditions	1.10.	<p>As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.</p> <p>The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:</p> <p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and</p> <p>(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.</p> <p>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.</p>	<p>In compliance with FIDIC conditions, we request you to kindly incorporate the following the modifications highlighted below to clause 1.10 of GCC:</p> <p>As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.</p> <p>The Contractor shall be deemed (by signing the Contract) to give to the Employer a terminable, non-transferable, exclusive royalty-free licence to use and communicate the Contractor's Documents This licence shall:</p> <p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle only authorised personnel of the Employer, bound by clause 1.12 of GCC (Confidential Details) and in proper possession of the relevant part of the Works to use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and</p> <p>(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.</p> <p>(d) be used within the municipal limits of Chennai, India</p> <p>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause and shall be subject to confidentiality obligations as enshrined under sub-clause 1.12 of GCC (Confidential Details).</p> <p>The said rights shall be limited to the municipal limits of Chennai, India.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
614	Part 3	General conditions	1.12	<p>The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.</p> <p>Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.</p>	<p>We request addition of the following highlighted portion to clause 1.12 of GCC as per FIDIC conditions:-</p> <p>The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.</p> <p>Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.</p> <p>A Party's obligation of confidentiality under this Sub-Clause shall not apply where the information:</p> <p>(a) was already in that Party's possession without an obligation of confidentiality before receipt from the other Party;</p> <p>(b) becomes generally available to the public through no breach of these Conditions; or</p> <p>(c) is lawfully obtained by the Party from a third party which is not bound by an obligation of confidentiality.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
615	Part 3	General conditions	1.13	<p>The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or being) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and</p> <p>(b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.</p> <p>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. The Employer shall provide the necessary assistance to the Contractor. The Employer shall also obtain or grant all consents including permits-to-work, rights-of-way and approvals required for the Works.</p>	<p>Request the following modifications as highlighted:-</p> <p>The Contractor and the Employer shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or being) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and</p> <p>(b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so, unless the failure is caused by the Employer's failure to comply with Sub-Clause 2.2 [Permits, Licences or Approvals].</p> <p>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. The Employer shall provide the necessary assistance to the Contractor. However, the Contractor shall submit, in good time, the details of Goods to the Employer, who shall then promptly obtain all import permits or licences required for these Goods. The Employer shall also obtain or grant all consents including permits-to-work, rights-of-way and approvals required for the Works. If the Contractor suffers delay and/or incurs Cost as a result of the Employer's delay or failure to obtain any permit, permission, licence or approval under sub-paragraph (a) above, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] and/or payment of such Cost Plus Profit.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
616	Part 3	General conditions	2.3	<p>The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:</p> <p>(a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and</p> <p>(b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].</p>	<p>We request the addition of following highlighted portion to clause 2.3 of GCC as per FIDIC conditions:-</p> <p>The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:</p> <p>(a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and</p> <p>(b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].</p> <p>The Contractor may require the Employer to remove (or cause to be removed) any person of the Employer's Personnel or of the Employer's other contractors (if any) who is found, based on reasonable evidence, to have engaged in corrupt, fraudulent, collusive or coercive practice in accordance with internal guidelines of the Employer.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
617	Part 3	General conditions	2.4	<p>The Employer shall submit, before the Commencement Date and thereafter within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment]. Before the Employer makes any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.</p> <p>In addition, if the Bank has notified to the Borrower that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Engineer, within 7 days of the Borrower having received the suspension notification from the Bank. If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide reasonable evidence in his notice of the extent to which such funds will be available.</p>	<p>We request the addition of following highlighted portion to clause 2.4 of GCC in accordance with FIDIC conditions:-</p> <p>The Employer shall submit, before the Commencement Date and thereafter within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment]. Before the Employer makes any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.</p> <p>If the Contractor:</p> <p>(a) receives an instruction to execute a Variation with a price greater than ten percent (10%) of the Contract Price stated in the Contract Agreement, or the accumulated total of Variations exceeds thirty percent (30%) of the Contract Price stated in the Contract Agreement;</p> <p>(b) does not receive payment in accordance with Sub-Clause 14.7 [Payment]; or</p> <p>(c) becomes aware of a material change in the Employer's financial arrangements of which the Contractor has not received a Notice under this Sub-Clause,</p> <p>the Contractor may request and the Employer shall, within 28 days after receiving this request, provide reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the part of the Contract Price remaining to be paid at that time (as estimated by the Employer).</p> <p>In addition, if the Bank has notified to the Borrower that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Engineer, within 7 days of the Borrower having received the suspension notification from the Bank. If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide reasonable evidence in his notice of the extent to which such funds will be available.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
618	Part 3	General conditions	2.5	<p>If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Engineer shall give notice and particulars to the Contractor.</p> <p>However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Employer's Equipment and Free-Issue Material], or for other services requested by the Contractor.</p> <p>The notice shall be given as soon as practicable and no longer than 28 days after the Employer became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.</p> <p>The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Engineer shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].</p> <p>This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.</p>	In accordance with FIDIC conditions, we request deletion of clause 2.5 of GCC in its entirety.	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
619	Part 3	General conditions	3.3	<p>The Engineer may issue to the Contractor (at any time) instructions which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause.</p> <p>If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply. The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. These instructions shall be given in writing.</p>	<p>In accordance with FIDIC conditions, we request the addition of the highlighted clause below to clause 3.3 of GCC as per FIDIC conditions:-</p> <p>The Engineer may issue to the Contractor (at any time) instructions which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause.</p> <p>If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply. The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. These instructions shall be given in writing.</p> <p>If an instruction states that it constitutes a Variation, Sub-Clause 13.3 [Variation Procedure] shall apply. If not so stated, and the Contractor considers that the instruction: (a) constitutes a Variation (or involves work that is already part of an existing Variation); or (b) does not comply with applicable Laws or will reduce the safety of the Works or is technically impossible the Contractor shall immediately, and before commencing any work related to the instruction, give a Notice to the Employer with reasons. If the Employer does not respond within 7 days (or such other time as may be agreed between the Parties) after receiving this Notice, by giving a Notice confirming, reversing or varying the instruction, the Employer shall be deemed to have revoked the instruction. Otherwise the Contractor shall comply with and be bound by the terms of the Employer's response.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
620	Part 3	General conditions	4.2	<p>The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>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 an reputable bank or financial institution 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.</p> <p>The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.</p> <p>The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract.</p>	<p>We request you to kindly incorporate the following modifications highlighted below to clause 4.2 of GCC:</p> <p>The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>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 an reputable bank or financial institution 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.</p> <p>The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.</p> <p>The Engineer/ Employer shall not make a claim under the Performance Security except for amounts to which Employer is entitled to under this Contract in the event of:</p> <p>i) Failure by the contractor to extend the validity of the Performance Security, in which event the Employer may claim the full amount of the Performance Security.</p> <p>ii) Failure by the contractor to pay the Employer any amount due, either as agreed by the Contractor or determined under any or the Clauses/Conditions of this Contract,</p>	<p>Bid Condition Prevails</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.</p> <p>The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.</p> <p>Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.</p>	<p>within 30 days of the service of notice to this effect by Engineer.</p> <p>iii) The Contractor being determined or rescinded under provisions of the GCC the Performance Security shall be forfeited in full and shall be absolutely at the disposal of the Employer.</p> <p>The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.</p> <p>The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.</p> <p>Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
621	Part 3	General conditions	4.4	<p>The Contractor shall not subcontract the whole of the Works.</p> <p>The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:</p> <p>(a) “The contractor, prior to procurement of any materials for this project shall propose details regarding source of materials, technical compliance of the materials in line with the parameters specified in Part 2 – Employer’s requirements and credentials of the supplier(s) to the Engineer for Notice of No Objection (NONO).” Subcontractor/Supplier named in the contract agreement do not require additional NONO from the Engineer</p> <p>(b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors; and</p> <p>(c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site. The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.</p> <p>Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.</p>	<p>Request addition of the following highlighted portion as per FIDIC conditions:-</p> <p>The Contractor shall not subcontract: (a) works with a total accumulated value greater than the percentage stated in the Contract Data of the Contract Price stated in the Contract Agreement (if no such percentage is stated, the whole of the Works); or (b) any part of the Works for which subcontracting is not permitted as stated in the Contract Data.</p> <p>The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:</p> <p>(a) “The contractor, prior to procurement of any materials for this project shall propose details regarding source of materials, technical compliance of the materials in line with the parameters specified in Part 2 – Employer’s requirements and credentials of the supplier(s) to the Engineer for Notice of No Objection (NONO).” Subcontractor/Supplier named in the contract agreement do not require additional NONO from the Engineer</p> <p>(b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors; and</p> <p>(c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site. The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.</p> <p>Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
622	Part 3	General conditions	4.5	<p>In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars.</p>	<p>In compliance with FIDIC conditions, we request you to kindly incorporate the following modifications highlighted below to clause 4.5 of GCC:</p> <p>In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars.</p> <p>An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees to indemnify the Contractor against and from the consequences of the matter:</p> <p>(a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;</p> <p>(b) the subcontract does not specify that the nominated Subcontractor shall indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, the nominated Subcontractor's agents and employees; or</p> <p>(c) the subcontract does not specify that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:</p> <p>(i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge the Contractor's corresponding obligations and liabilities under the Contract, and</p> <p>(ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities.</p>	BidCondition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
623	Part 3	General conditions	4.13	<p>Unless otherwise specified in the Contract the Employer shall provide effective access to and possession of the Site including special and/or temporary rights- of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.</p>	<p>In accordance with FIDIC Conditions we request addition of the following highlighted portion to clause 4.13 of GCC:-</p> <p>Unless otherwise specified in the Contract the Employer shall provide effective access to and possession of the Site including special and/or temporary rights- of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.</p> <p>If the Contractor suffers delay and/or incurs Cost as a result of the Employer's delay or failure to provide effective access to and/or possession of the Site, the Contractor shall be entitled to Extension of Time and/or payment of such cost plus profit.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
624	Part 3	General conditions	4.15	<p>The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.</p> <p>Except as otherwise stated in these Conditions:</p> <p>(a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;</p> <p>(b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;</p> <p>(c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route,</p> <p>(d) the Employer does not guarantee the suitability or availability of particular access routes, and</p> <p>(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.</p>	<p>In accordance with FIDIC Conditions, we request addition of the following highlighted clause to clause 4.15 of GCC:-</p> <p>The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.</p> <p>Except as otherwise stated in these Conditions:</p> <p>(a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;</p> <p>(b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;</p> <p>(c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route,</p> <p>(d) the Employer does not guarantee the suitability or availability of particular access routes, and</p> <p>(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.</p> <p>To the extent that non-suitability or non-availability of an access route arises as a result of changes to that access route by the Employer or a third party after the Base Date and as a result the Contractor suffers delay and/or incurs Cost, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] and/or payment of such Cost</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
625	Part 3	General conditions	5.1	<p>The Contractor shall carry out, and be responsible for, the design of the Works. Design shall be prepared by qualified designers who are engineers or other professionals who comply with the criteria (if any) stated in the Employer's Requirements. Unless otherwise stated in the Contract, the Contractor shall submit to the Engineer for consent the name and particulars of each proposed designer and design Subcontractor.</p> <p>The Contractor warrants that he, his designers and design Subcontractors have the experience and capability necessary for the design. The Contractor undertakes that the designers shall be available to attend discussions with the Engineer at all reasonable times, until the expiry date of the relevant Defects Notification Period. Upon receiving notice under Sub-Clause 8.1 [Commencement of Works], the Contractor shall scrutinise the Employer's Requirements (including design criteria and calculations, if any) and the items of reference mentioned in Sub-Clause 4.7 [Setting Out]. Within the period stated in the Contract Data, calculated from the Commencement Date, the Contractor shall give notice to the</p>	<p>In accordance with FIDIC Conditions we request addition of the following highlighted portion to clause 5.1 of GCC:-</p> <p>The Contractor shall carry out, and be responsible for, the design of the Works. Design shall be prepared by qualified designers who are engineers or other professionals who comply with the criteria (if any) stated in the Employer's Requirements. Unless otherwise stated in the Contract, the Contractor shall submit to the Engineer for consent the name and particulars of each proposed designer and design Subcontractor.</p> <p>The Contractor warrants that he, his designers and design Subcontractors have the experience and capability necessary for the design. The Contractor undertakes that the designers shall be available to attend discussions with the Engineer at all reasonable times, until the expiry date of the relevant Defects Notification Period. Upon receiving notice under Sub-Clause 8.1 [Commencement of Works], the Contractor shall scrutinise the Employer's Requirements (including design criteria and calculations, if any) and the items of reference mentioned in Sub-Clause 4.7 [Setting Out]. Within the period stated in the Contract Data, calculated from the Commencement Date, the Contractor shall give notice to the Engineer of any error, fault or other defect found in the Employer's Requirements or these items of reference.</p> <p>After receiving this notice, the Engineer shall determine whether Clause 13 [Variations and Adjustments] shall be applied, and shall give notice to the Contractor accordingly. If and to the extent that (taking account of cost and time) an experienced contractor exercising due care would have discovered the</p>	<p>Bid Condition Prevails</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				Engineer of any error, fault or other defect found in the Employer's Requirements or these items of reference. After receiving this notice, the Engineer shall determine whether Clause 13 [Variations and Adjustments] shall be applied, and shall give notice to the Contractor accordingly. If and to the extent that (taking account of cost and time) an experienced contractor exercising due care would have discovered the error, fault or other defect when examining the Site and the Employer's Requirements before submitting the Tender, the Time for Completion shall not be extended and the Contract Price shall not be adjusted	<p>error, fault or other defect when examining the Site and the Employer's Requirements before submitting the Tender, the Time for Completion shall not be extended and the Contract Price shall not be adjusted.</p> <p>However, the Employer shall be responsible for the correctness of the following portions of the Employer's Requirements and of the following data and information provided by (or on behalf of) the Employer:</p> <p>(a) portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer,</p> <p>(b) definitions of intended purposes of the Works or any parts thereof,</p> <p>(c) criteria for the testing and performance of the completed Works, and</p> <p>(d) portions, data and information which cannot be verified by the Contractor, except as otherwise stated in the Contract.</p>	
626	Part 3	General conditions	6.3	The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.	<p>We request addition of the following highlighted portion to clause 6.3 of the GCC</p> <p>The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.</p> <p>The Employer shall not recruit, or attempt to recruit, staff and labour from amongst the Contractor's Personnel.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
627	Part 3	General conditions	6.7	<p>The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority. The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.</p> <p>HIV-AIDS Prevention. The Contractor shall conduct an HIV-AIDS awareness programme via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.</p> <p>The Contractor shall throughout the contract (including the Defects Notification Period): (i) conduct Information, Education and Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, all Subcontractors and any other Contractor's or Employer's personnel, and all truck drivers and crew making deliveries to Site for construction</p>	<p>We request deletion of the portion from clause 6.7 of GCC:- Proposed clause:</p> <p>The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to, of Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular; (ii) provide male or female condoms for all Site staff and labour as appropriate; and (iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS programme, (unless otherwise agreed) of all Site staff and labour.</p> <p>The Contractor shall include in the programme to be submitted for the execution of the Works under SubClause 8.3 an alleviation programme for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation programme shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the programme shall detail the resources to be provided or utilised and any related sub-contracting proposed. The programme shall also include provision of a detailed cost estimate with supporting documentation. The Contract shall allow for continuous audits of the Contractor's compliance with his OHS&E Plan and the requirements of Section VI, of Part-2 Employer's Requirements.</p>	<p>instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority. The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.</p>	
628	Part 3	Genenral conditions	7.5	<p>If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the Contract, the Engineer may reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.</p> <p>If the Engineer requires this Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer.</p>	<p>In compliance with FIDIC Conditions we request addition of the following highlighted portion to clause 7.5 of GCC:-</p> <p>If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the Contract, the Engineer may reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.</p> <p>The Employer may Review this proposal, and may give a Notice to the Contractor stating the extent to which the proposed work, if carried out, would not result in the Plant, Materials, design or workmanship complying with the Contract. After receiving such a Notice the Contractor shall promptly submit a revised proposal to the Employer. If the Employer gives no such Notice within 14 days after receiving the Contractor's proposal (or revised proposal), the Employer shall be deemed to have given a Notice of No-objection.</p> <p>If the Engineer requires this Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
629	Part 3	General conditions	8.7	<p>If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.</p> <p>These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.</p> <p>8.7.1 If the Contractor fails to provide access, occupation or handover in accordance with the Contract to an Interfacing Contractor for any part of the Works which is subject to a Key Date or If the Contractor fails to substantially achieve any Key Date within the time so prescribed, subject to any extension granted under GCC Clause 8.4, the Engineer shall recover Liquidated Damage from the Contractor's IPC, as stated in Part 3 – Contract Data, for every day which elapses or any damages likely to be suffered by him in that part of the Works. However, the total amount of Liquidated Damages and penalties on all Key Dates summed up including</p>	<p>In accordance with FIDIC Conditions we request the following highlighted addition to clause 8.7 of GCC:-</p> <p>If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.</p> <p>These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.</p> <p>8.7.1 If the Contractor fails to provide access, occupation or handover in accordance with the Contract to an Interfacing Contractor for any part of the Works which is subject to a Key Date or If the Contractor fails to substantially achieve any Key Date within the time so prescribed, subject to any extension granted under GCC Clause 8.4, the Engineer shall recover Liquidated Damage from the Contractor's IPC, as stated in Part 3 – Contract Data, for every day which elapses or any damages likely to be suffered by him in that part of the Works. However, the total amount of Liquidated Damages and penalties on all Key Dates summed up including Key Date related to taking over on completion of entire work shall not exceed 10 5% of the total Contract Price.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>Key Date related to taking over on completion of entire work shall not exceed 10% of the total Contract Price.</p> <p>8.7.2 Delay Damages in respect of two or more Key Dates may run concurrently, and the Contractor will be liable for the aggregate of Delay Damages for all delayed Key Dates.</p> <p>8.7.3 All sums payable by the Contractor to the Employer pursuant to GC Clause 8.7 shall be paid as Delay Damages for delay and not as a penalty.</p> <p>8.7.4 Delay damages levied on earlier missed key dates will be refunded provided that the delay does not result in delay for the works of any interfacing contractors or overall completion of the work. In such a scenario, if there is any claim by interfacing contractor, the damages collected will be compensated against the claim and the balance will be released</p>	<p>8.7.2 Delay Damages in respect of two or more Key Dates may run concurrently, and the Contractor will be liable for the aggregate of Delay Damages for all delayed Key Dates.</p> <p>8.7.3 All sums payable by the Contractor to the Employer pursuant to GC Clause 8.7 shall be paid as Delay Damages for delay and not as a penalty.</p> <p>8.7.4 Delay damages levied on earlier missed key dates will be refunded provided that the delay does not result in delay for the works of any interfacing contractors or overall completion of the work. In such a scenario, if there is any claim by interfacing contractor, the damages collected will be compensated against the claim and the balance will be released.</p> <p>Notwithstanding the foregoing, the Employer shall not levy any liquidated damages and/or any such amount due under this Sub-clause which is not attributable to the Contractor. The Contractor is entitled to compensation for any delay/damage incurred due to the Employer's or the Engineer's default.</p>	
630	Part 3	General conditions	8.12	<p>After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Engineer an instruction to this effect under Clause 13 [Variations and Adjustments].</p>	<p>In accordance with FIDIC Conditions, we request the following highlighted new addition to clause 8 of GCC:-</p> <p>After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Engineer an instruction to this effect under Clause 13 [Variations and Adjustments].</p> <p>8.13 (Advance Warning) Each Party shall advise the other Party in advance of any known or probable future events or circumstances which may: (a) adversely affect the work of the Contractor's Personnel; (b) adversely affect the performance of the Works when completed; (c) increase the Contract Price; and/or (d) delay the execution of the Works or a Section (if any). The Employer may request the Contractor to submit a proposal under Sub-Clause 13.3.2 [Variation by Request for Proposal] to avoid or minimise the effects of such event(s) or circumstance(s).</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
631	Part 3	General conditions	8.12	Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.	In compliance with FIDIC conditions we request deletion of clause 10.4 from the GCC in its entirety.	Bid Condition Prevails
632	Part 3	General conditions	11.2	<p>All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:</p> <p>(a) the design of the Works, other than a part of the design for which the Employer is responsible (if any),</p> <p>(b) Plant, Materials or workmanship not being in accordance with the Contract,</p> <p>(c) improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or</p> <p>(d) failure by the Contractor to comply with any other obligation.</p> <p>If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer, and Sub-Clause 13.3 [Variation Procedure] shall apply.</p>	<p>As per FIDIC Conditions we request incorporation of following highlighted portion to clause 11.2 of GCC:-</p> <p>All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if the work is attributable to:</p> <p>(a) the design of the Works, other than a part of the design for which the Employer is responsible (if any),</p> <p>(b) Plant, Materials or workmanship not being in accordance with the Contract,</p> <p>(c) improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or</p> <p>(d) failure by the Contractor to comply with any other obligation.</p> <p>If the Contractor and to the extent that considers such work is attributable to any other cause, the Contractor shall promptly give a Notice to the Employer and the Employer's Representative shall proceed under Sub-Clause 3.5 [Determination] to agree or determine the cause (and, for the purpose of Sub-Clause 3.5 [Determination], the date of this Notice shall be the date of commencement of the time limit for the agreement under Sub-Clause 3.5.3). If it is agreed or determined that the work is attributable to a cause other than those listed above, Sub-Clause 13.3 [Variation Procedure] shall apply as if such work had been instructed by the Employer.</p>	BidCondition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
633	Part 3	General conditions	11.7	<p>Until the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.</p>	<p>In compliance with FIDIC Conditions we request addition of the following highlighted portion to clause 11.7 of GCC:-</p> <p>Until the date 28 days after issue of the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.</p> <p>Whenever the Contractor intends to access any part of the Works or such records during the relevant Defects Notification Period: (a) the Contractor shall request access by giving a Notice to the Employer, describing the parts of the Works and/or records to be accessed, the reasons for such access, and the Contractor's preferred date for access. This Notice shall be given in reasonable time in advance of the preferred date for access, taking due regard of all relevant circumstances including the Employer's security restrictions; and (b) within 7 days after receiving the Contractor's Notice, the Employer shall give a Notice to the Contractor either: (i) stating the Employer's consent to the Contractor's request; or (ii) proposing reasonable alternative date(s), with reasons. If the Employer fails to give this Notice within the 7 days, the Employer shall be deemed to have given consent to the Contractor's access on the preferred date stated in the Contractor's Notice. If the Contractor incurs additional Cost as a result of any unreasonable delay by the Employer in permitting access to the Works or such records by the Contractor, the Contractor to payment of any such Cost Plus Profit.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
634	Part 3	General conditions	11.10.	After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.	<p>As per FIDIC Conditions we request addition of the following highlighted portion to clause 11.10 of GCC:-</p> <p>After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.</p> <p>However in relation to Plant, the Contractor shall not be liable for any defects or damage occurring more than two years after expiry of the Defect Notification Period for the Plant except if prohibited by law or in any case of fraud, gross negligence, deliberate default or reckless misconduct.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
635	Part 3	General conditions	13.3	<p>If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:</p> <p>(a) a description of the proposed design and/or work to be performed and a programme for its execution,</p> <p>(b) the Contractor's proposal for any necessary modifications to the programme according to SubClause 8.3 [Programme] and to the Time for Completion, and</p> <p>(c) the Contractor's proposal for adjustment to the Contract Price.</p> <p>The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.</p> <p>Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.</p> <p>Upon instructing or approving a Variation, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include profit, and shall take account of the Contractor's submissions under SubClause 13.2 [Value Engineering] if applicable.</p>	<p>We request modification to clause 13.3 of GCC in accordance with the highlighted portion as per FIDIC conditions:-</p> <p>If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:</p> <p>(a) a description of the proposed design and/or work to be performed and a programme for its execution,</p> <p>(b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and</p> <p>(c) the Contractor's proposal for adjustment to the Contract Price, with supporting particulars.</p> <p>Whenever the omission of any work forms part (or all) of a Variation, and if:</p> <ul style="list-style-type: none"> • the Contractor has incurred or will incur cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Contract Price stated in the Contract Agreement; and • the omission of the work has resulted or will result in this sum not forming part of the Contract Price <p>this cost may be included in the Contractor's proposal (and, if so, shall be clearly identified). If the Parties have agreed to the omission of any work which is to be carried out by others, the Contractor's proposal may also include the amount of any loss of profit and other losses and damages suffered (or to be suffered) by the Contractor as a result of the omission.</p> <p>Thereafter, the Contractor shall submit any further particulars that the Employer's Representative may reasonably require.</p> <p>The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response</p> <p>Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.</p> <p>Upon instructing or approving a Variation, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include profit, and shall take account of the Contractor's submissions under SubClause 13.2 [Value Engineering] if applicable.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
636	Part 3	General conditions	13.3	<p>The Employer shall make an advance payment, as an interest-free loan for mobilisation and design, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Contract Data. Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>The Engineer shall deliver to the Employer and to the Contractor an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Contract Data or in another form approved by the Employer. The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.</p>	<p>We request the partial deletion as below from clause 14.2 of GCC as per FIDIC conditions:-</p> <p>The Employer shall make an advance payment, as an interest-free loan for mobilisation and design, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Contract Data. Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Contract Data, this Sub-Clause shall not apply.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
637	Part 3	General conditions	14.6	<p>No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any”.</p> <p>However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Contract Data. In this event, the Engineer shall give notice to the Contractor accordingly.</p> <p>An Interim Payment Certificate shall not be withheld for any other reason, although:</p> <p>(a)if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or</p>	<p>We request addition of the following highlighted clause to clause 14.6 of GCC as per FIDIC conditions:-</p> <p>No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any”.</p> <p>However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Contract Data. In this event, the Engineer shall give notice to the Contractor accordingly.</p> <p>An Interim Payment Certificate shall not be withheld for any other reason, although:</p> <p>(a)if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or</p> <p>(b)b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.</p> <p>The Engineer may in any Payment Certificate make any correction or</p>	The relevant GC clause, as modified by PC 51, will prevail.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>or replacement may be withheld until rectification or replacement has been completed; and/or</p> <p>(b)b if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.</p> <p>The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction, and shall include any amounts due to or from the Contractor in accordance with a decision by the DB made under Sub-Clause 20.4 [Obtaining Dispute Board'].</p>	<p>modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction, and shall include any amounts due to or from the Contractor in accordance with a decision by the DB made under Sub-Clause 20.4 [Obtaining Dispute Board'].</p> <p>If the Contractor considers that an interim payment does not include any amounts to which the Contractor is entitled, these amounts shall be identified in the next Statement (the "identified amounts" in this paragraph). The Employer shall then make any correction or modification that should properly be made in the next interim payment. Thereafter, to the extent that: (a) the Contractor is not satisfied that this next interim payment includes the identified amounts; and (b) the identified amounts do not concern a matter for which the Employer's Representative is already carrying out his/her duties under Sub-Clause 3.5 [Agreement or Determination] the Contractor may, by giving a Notice, refer this matter to the Employer's Representative and Sub-Clause 3.5 [Determination] shall apply (and, for the purpose of Sub-Clause 3.5. [Determination], the date the Employer's Representative receives this Notice shall be the date of commencement of the time limit for agreement under Sub-Clause 3.5).</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
638	Part 3	General conditions	14.14	<p>The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it: (a) in the Final Statement and also (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].</p> <p>However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.</p>	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 14.14 of GCC:-</p> <p>The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it: (a) in the Final Statement and also (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion]. Unless the Contractor makes or has made a Claim under Sub-Clause 20.1 [Contractor's Claims]in respect of an amount or amounts included in the Final Payment within 56 days of receiving the Final Payment the Contractor shall be deemed to have accepted the Final Payment as correct. The Employer shall then have no further liability to the Contractor, other than to return the Performance Security to the Contractor.</p> <p>However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
639	Part 3	General conditions	15.1	If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 15.1 of GCC:-</p> <p>If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.</p> <p>After receiving a notice to correct, the Contractor shall immediately respond by giving a notice to the Employer describing the measures the Contractor will take to remedy the failure, and stating the date on which such measures will be commenced in order to comply with the time specified in the notice to correct.</p>	Bid Condition Prevails
640	Part 3	General conditions	15.3	As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 15.3 of GCC:-</p> <p>As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract (and, for the purpose of Sub-Clause 3.5 [Determinations], the date of termination shall be the date of commencement of the time limit for agreement under Sub-Clause 3.5).</p> <p>This valuation shall include any additions and/or deductions, and the balance due (if any), by reference to the matters described in sub-paragraphs (a) and (b) of Sub-Clause 14.13 [Issue of Final Payment Certificate].</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
641	Part 3	General conditions	15.5	<p>The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Sub-Clause 16.2 [Termination by Contractor].</p> <p>After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release].</p>	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 15.5 of GCC:-</p> <p>The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Sub-Clause 16.2 [Termination by Contractor].</p> <p>After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release].</p> <p>After giving a Notice to terminate under this Sub-Clause, the Employer shall immediately:</p> <p>(a) have no right to further use any of the Contractor's Documents, which shall be returned to the Contractor, except those for which the Contractor has received payment or for which payment is due;</p> <p>(b) if Sub-Clause 4.6 [Co-operation] applies, have no right to allow the continued use (if any) of any Contractor's Equipment, Temporary Works, access arrangements and/or other of the Contractor's facilities or services; and</p> <p>(c) make arrangements to return the Performance Security to the Contractor.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses						
30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 15 shall apply as if such expulsion had been made under Sub-Clause 15.2 [Termination by Employer].</p>	<p>In compliance with FIDIC conditions, we request the following new additions to clause 15 of the GCC:-</p> <p>If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 15 shall apply as if such expulsion had been made under Sub-Clause 15.2 [Termination by Employer]. Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive or coercive practice during the execution of the Works, then that employee shall be removed in accordance with Sub-Clause 6.9 [Contractor's Personnel]. For the purpose of this Sub-Clause:</p> <p>(a) "corrupt practice" means the offering, giving, receiving of soliciting of any thing of value to influence the action of a public official in the procurement process or in the Contract execution.</p> <p>(b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of the Contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designated to</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
642	Part 3	General conditions	15.6	<p>Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive or coercive practice during the execution of the Works, then that employee shall be removed in accordance with Sub-Clause 6.9 [Contractor's Personnel]. For the purpose of this Sub-Clause:</p> <p>(a) "corrupt practice" means the offering, giving, receiving of soliciting of any thing of value to influence the action of a public official in the procurement process or in the Contract execution.</p> <p>(b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of the Contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designated to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.</p> <p>(c) "collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designated to establish bid prices at artificial, non-competitive levels. (d) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.</p>	<p>establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition. (c) "collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designated to establish bid prices at artificial, non-competitive levels. (d) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.</p> <p>15.7 (Valuation after Termination for Employer's Convenience) After termination under Sub-Clause 15.5 [Employer's Entitlement to Termination for Convenience] the Contractor shall, as soon as practicable, submit detailed supporting particulars (as reasonably required by the Employer) of: (a) the value of work done, which shall include: (i) the matters described in sub-paragraphs (a) to (e) of Sub-Clause 19.6 [Optional Termination, Payment and Release], and (ii) any additions and/or deductions, and the balance due (if any), by reference to the matters described in sub-paragraphs (a) and (b) of Sub-Clause 14.13 [Issue of Final Payment Certificate]; and (b) the amount of any loss of profit or other losses and damages suffered by the Contractor as a result of this termination. The Employer's Representative shall then proceed under Sub-Clause 3.5 [Agreement or Determination] to agree or determine the matters described in sub-paragraphs (a) and (b) above (and, for the purpose of Sub-Clause 3.5 [Determination], the date the Employer's Representative receives the Contractor's particulars under this Sub-Clause shall be the date of commencement of the time limit for agreement under Sub-Clause 3.5). The Employer shall pay the amount so agreed or determined to the Contractor, without the need for the Contractor to submit a Statement.</p> <p>15.8 (Payment after Termination for Employer's Convenience) The Employer shall pay the Contractor the amount agreed or determined under Sub-Clause 15.7 [Valuation after Termination for Employer's Convenience] within 112 days after the Employer receives the Contractor's submission under that Sub-Clause.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>The Contractor shall be entitled to terminate the Contract if:</p> <p>(a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work] in respect of a failure to comply with Sub-Clause 2.4 [Employer's Financial Arrangements],</p> <p>(b) the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,</p> <p>(c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Employer's Claims]),</p> <p>(d) the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract, (e) the Employer fails to comply with Sub-Clause 1.6 [Contract Agreement] or Sub-Clause 1.7 [Assignment],</p> <p>(f) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or</p> <p>(g) the Employer becomes bankrupt or insolvent, goes into</p>	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 16.2 of GCC:-</p> <p>The Contractor shall be entitled to terminate the Contract if:</p> <p>(a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work] in respect of a failure to comply with Sub-Clause 2.4 [Employer's Financial Arrangements],</p> <p>(aa) the Employer fails to comply with: (i) a binding agreement, or final and binding determination under Sub-Clause 3.5 [Determination];or (ii) a decision of the DB under 20.4 [Obtaining DB's Decision] (whether binding or final and binding) and such failure constitutes a material breach of the Employer's obligations under the Contract</p> <p>(b) the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,</p> <p>(c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Employer's Claims]),</p> <p>(d) the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
643	Part 3	General conditions	16.2	<p>liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.</p> <p>(h) the Contractor does not receive the Engineer's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works]".</p> <p>In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.</p> <p>In the event the Bank suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work, and (ii) terminate his employment under the Contract by giving notice to the Employer, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.</p> <p>The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.</p>	<p>Contractor to perform the Contract,</p> <p>(e) the Employer fails to comply with Sub-Clause 1.6 [Contract Agreement] or Sub-Clause 1.7 [Assignment],</p> <p>(f) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or</p> <p>(g) the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.</p> <p>(h) the Contractor does not receive the Engineer's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works]".</p> <p>In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.</p> <p>In the event the Bank suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work, and (ii) terminate his employment under the Contract by giving notice to the Employer, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.</p> <p>The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.</p>	Bid Condition Prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
644	Part 3	General conditions	17.2	<p>The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.</p> <p>After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.</p> <p>If any loss or damage happens to the Works, Goods or</p>	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 17.2 of GCC:-</p> <p>The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.</p> <p>After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.</p> <p>The Contractor shall have no liability whatsoever, whether by way of indemnity or otherwise, for loss or damage to the Works, Goods or Contractor's Documents caused by any of the following events (except to the extent that such Works, Goods or Contractor's Documents have been rejected by the Employer under Sub-Clause 7.5 [Rejection] before the occurrence of any of the following events):</p>	<p>Bid condition prevails</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Employer's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.</p> <p>The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.</p>	<p>(a) interference, whether temporary or permanent, with any right of way, light, air, water or other easement (other than that resulting from the Contractor's method of construction) which is the unavoidable result of the execution of the Works in accordance with the Contract;</p> <p>(b) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract;</p> <p>(c) fault, error, defect or omission in any element of the design of the Works by the Employer, other than design carried out by the Contractor in accordance with the Contractor's obligations under the Contract;</p> <p>(d) any operation of the forces of nature (other than those allocated to the Contractor in the Contract Data) which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions; (e) any of the events or circumstances listed under Sub-Clause 19.1 [Force Majeure]; and/or</p> <p>(f) any act or default of Employer's Personnel or Employer's other contractors.</p>	
645	Part 3	General conditions	17.5	<p>The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:</p> <p>(a) an unavoidable result of the Contractor's compliance with the Employer's Requirements, or (b) a result of any Works being used by the Employer: (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.</p>	<p>In compliance with FIDIC Conditions we request addition of following highlighted portion to clause 17.5 of GCC:-</p> <p>The Employer shall indemnify and hold the Contractor harmless against and from any claim (including legal fees and expenses) alleging an infringement which is or was:</p> <p>(a) an unavoidable result of the Contractor's compliance with the Employer's Requirements, or</p> <p>(b) a result of any Works being used by the Employer: (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.</p>	Bid condition prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
646	Part 3	General conditions	17.6	<p>Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4 (b) [Consequences of Employer's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].</p> <p>The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free Issue Material], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the Contract Data, or (if such multiplier or other sum is not so stated), the Accepted Contract Amount.</p> <p>This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Part</p>	<p>In compliance with FIDIC Conditions we request modification to clause 17.6 of GCC:-</p> <p>Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-clause 13.3 [Variation Procedure]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.4 (b) [Consequences of Employer's Risks] .</p> <p>The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], shall not exceed the sum as stated in the Contract Data, or (if a sum is not so stated), the Accepted Contract Amount.</p> <p>This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.</p>	<p>Bid conditions prevail</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
647	Part 3	General conditions	17.7	<p>The Contractor shall take full responsibility for the care of the Employer-provided accommodation and facilities, if any, as detailed in the Employer's Requirements, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).</p> <p>If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.</p>	<p>In compliance with FIDIC Conditions we request modification to clause 17.7 of GCC. Further, we also request new addition to clause 17 of the GCC:-</p> <p>The Contractor shall take full responsibility for the care of the Employer-provided accommodation and facilities, if any, as detailed in the Employer's Requirements, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).</p> <p>If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage in a commercial reasonable manner.</p> <p>17.8 (Shared Indemnities) The Contractor's liability to indemnify the Employer, under Sub-Clause 17.1 [Indemnities] and/or under Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall be reduced proportionately to the extent that any event described under sub-paragraphs (a) to (f) of Sub-Clause 17.2 [Contractor's Liability for Care of the Works] may have contributed to the said damage, loss or injury.</p> <p>Similarly, the Employer's liability to indemnify the Contractor, under Sub-Clause 17.1 [Indemnities by Employer] and/or under Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall be reduced proportionately to the extent that any event for which the Contractor is responsible under Sub-Clause 17.2 [Contractor's Care of the Works] may have contributed to the said damage, loss or injury.</p>	Bid condition prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.</p> <p>The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability] and Clause 12 [Tests after Completion]).</p> <p>The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.</p> <p>Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:</p>	<p>We request modification to clause 18.2 of GCC:-</p> <p>The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for any damages arising out of any defect in the design or Contractor's equipment or workmanship for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.</p> <p>The insuring Party shall maintain this insurance to provide cover until the date of issue of the Taking Over Certificate, for loss or</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
648	Part 3	General conditions	18.2	<p>insurance under this Sub-Clause:</p> <p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,</p> <p>(c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Employer's Risks],</p> <p>(d) shall also cover, to the extent specifically required in the bidding documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Employer of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g), and (h) of Sub-Clause 17.3 [Employer's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the Contract Data (if an amount is not so stated, this sub-paragraph (d) shall not apply), and</p> <p>(e) may however exclude loss of, damage to, and reinstatement of:</p> <p>(i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but</p>	<p>damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of Defects Liability] under extended maintenance cover for a period of two years from the date of issuance of Taking Over Certificate.</p> <p>The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.</p> <p>Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:</p> <p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,</p> <p>(c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Employer's Risks],</p> <p>(d) may however exclude loss of, damage to, and reinstatement of:</p> <p>(i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result</p>	<p>Bid conditions will prevail.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),</p> <p>(ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,</p> <p>(iii) a part of the Works which has been taken over by the Employer, except to the extent that the Contractor is liable for the loss or damage, and</p> <p>(iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].</p> <p>If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [Employer's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].</p>	<p>of this defective condition and not as described in sub-paragraph (ii) below),</p> <p>(ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,</p> <p>(iii) a part of the Works which has been taken over by the Employer, except to the extent that the Contractor is liable for the loss or damage, and</p> <p>(iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].</p> <p>(v) any loss or damage caused by a Force Majeure event or any event not attributable to the Contractor.</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
649	Part 3	General conditions	18.3	<p>The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.</p> <p>This insurance shall be for a limit per occurrence of not less than the amount stated in the Contract Data, with no limit on the number of occurrences. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause: (a) shall be effected and maintained by the Contractor as insuring Party, (b) shall be in the joint names of the Parties, (c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's</p>	<p>We request modification to clause 18.3 of GCC:-</p> <p>The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Taking Over Certificate.</p> <p>This insurance shall be for a limit per occurrence of not less than the amount stated in the Contract Data, with no limit on the number of occurrences. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply. Such insurance shall be effected before the Contractor begins any work on the Site and shall remain in force until the issue of the Taking Over Certificate</p> <p>Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause: (a) shall be effected and maintained by the Contractor as insuring Party,</p>	<p>Bid conditions will prevail.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses						
30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and</p> <p>(d) may however exclude liability to the extent that it arises from:</p> <p>(i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,</p> <p>(ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and</p> <p>(iii) a cause listed in Sub-Clause 17.3 [Employer's Risks], except to the extent that cover is available at commercially reasonable terms.</p>	<p>(b) shall be in the joint names of the Parties,</p> <p>(c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and</p> <p>(d) may however exclude liability to the extent that it arises from:</p> <p>(i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,</p> <p>(ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and</p> <p>(iii) a cause listed in Sub-Clause 17.3 [Employer's Risks], except to the extent that cover is available at commercially reasonable terms.</p> <p>(iv) any loss or damage caused by a Force Majeure event</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
650	Part 3	General conditions	19.2	<p>If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.</p> <p>The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them. Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.</p>	<p>In compliance with FIDIC conditions we request addition of following highlighted portion to clause 19.2 of GCC:-</p> <p>If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure. If this Notice is received by the other Party after this period of 14 days, the affected Party shall be excused performance of the prevented obligations only from the date on which this Notice is received by the other Party.</p> <p>The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them. Other than performance of the prevented obligations, the affected Party shall not be excused performance of all other obligations under the Contract.</p> <p>Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.</p>	Bid conditions will prevail.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
651	Part 3	General conditions	20.3	<p>If any of the following conditions apply, namely: (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph of Sub-Clause 20.2 [Appointment of the Dispute Board], (b) either Party fails to nominate a member (for approval by the other Party) , or fails to approve a member nominated by the other Party, of a DB of three persons by such date, (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, then the appointing entity or official named in the Contract Data shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.</p>	<p>In compliance with FIDIC conditions, we request new addition of following highlighted portion to clause 20.3 of GCC:-</p> <p>If any of the following conditions apply, namely: (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph of Sub-Clause 20.2 [Appointment of the Dispute Board], (b) either Party fails to nominate a member (for approval by the other Party) , or fails to approve a member nominated by the other Party, of a DB of three persons by such date, (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, then the appointing entity or official named in the Contract Data shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.</p> <p>20.3A (Avoidance of Disputes) The Contractor's liability to indemnify the Employer, under Sub-Clause 17.1 [Indemnities] and/or under Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall be reduced proportionately to the extent that any event described under sub-paragraphs (a) to (f) of Sub-Clause 17.2 [Contractor's Liability for Care of the Works] may have contributed to the said damage, loss or injury. Similarly, the Employer's liability to indemnify the Contractor, under Sub-Clause 17.1 [Indemnities by Employer] and/or under Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall be reduced proportionately to the extent that any event for which the Contractor is responsible under Sub-Clause 17.2 [Contractor's Care of the Works] may have contributed to the said damage, loss or injury.</p>	<p>Bid conditions will prevail.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>1. Any dispute between the Parties arising out of or in connection with the Contract, not settled under Amicable Settlement in accordance with SubClause 20.5 above, shall be finally settled by arbitration. The rules governing arbitration shall be as under.</p> <p>A. In case of the Contractor or the Lead Member of the Contractor (in the case of a Joint Venture or Consortium) being of Japanese origin</p> <p>i) The Arbitral Proceedings will be administered by the Singapore International Arbitration Center (SIAC) and conducted under the SIAC Rules of Arbitration.</p> <p>ii) The dispute shall be referred to an Arbitral Tribunal comprising of three members. Each party shall nominate one arbitrator from the Panel list of DB Members/Arbitrator utilized earlier under Clause 20.2, within fifteen day's from the date of receipt of failure notice issued under Clause 20.5. The two arbitrators so nominated, shall appoint the Presiding Arbitrator from the Panel referred above, by mutual consultation among themselves, within 15 days of the appointment of the second Arbitrator.</p> <p>iii) The Seat of Arbitration shall be Chennai, India.</p> <p>iv) The venue of Arbitration will be at Chennai, India or any other place mutually agreed by both parties.</p> <p>v) The arbitration shall be conducted in English language.</p> <p>B. In case of the Contractor or the Lead Member of the Contractor (in the case of a Joint Venture or Consortium) being of Indian origin</p>	<p>Request modification as per the following highlighted portion:-</p> <p>1. Any dispute between the Parties arising out of or in connection with the Contract, not settled under Amicable Settlement in accordance with SubClause 20.5 above, shall be finally settled by arbitration. The rules governing arbitration shall be as under.</p> <p>A. In case of the Contractor or the Lead Member of the Contractor (in the case of a Joint Venture or Consortium) being of Japanese origin</p> <p>i) The Arbitral Proceedings will be administered by the Singapore International Arbitration Center (SIAC) and conducted under the SIAC Rules of Arbitration.</p> <p>ii) The dispute shall be referred to an Arbitral Tribunal comprising of three members. Each party shall nominate one arbitrator from the Panel list of DB Members/Arbitrator utilized earlier under Clause 20.2, within fifteen day's from the date of receipt of failure notice issued under Clause 20.5. The two arbitrators so nominated, shall appoint the Presiding Arbitrator from the Panel referred above, by mutual consultation among themselves, within 15 days of the appointment of the second Arbitrator.</p> <p>iii) The Seat of Arbitration shall be Chennai, India.</p> <p>iv) The venue of Arbitration will be at Chennai, India or any other place mutually agreed by both parties.</p> <p>v) The arbitration shall be conducted in English language.</p> <p>B. In case of the Contractor or the Lead Member of the Contractor (in the case of a Joint Venture or Consortium) being of non-Japanese origin</p> <p>i) The dispute shall be referred to an Arbitral Tribunal comprising three members. Either Party may propose to the other Party for referring the</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
652	Part 3	Particular conditions	59	<p>i) The dispute shall be referred to an Arbitral Tribunal comprising three members. Either Party may propose to the other Party for referring the dispute to Arbitration. If the proposal is initiated by the Contractor, such proposal shall be addressed to the Employer and the Employer shall, within fifteen days from the date of receipt of such proposal, send a Panel of Dispute Board members/Arbitrators to the Contractor. Such panel of independent persons, shall meet with the requirement relating to the independence or impartiality of arbitrators referred to in the Fifth and Seventh schedules, read with Section 12, sub-sections (1) (a), (b) and (5) of the Indian Arbitration and Conciliation Act, 1996 as amended by the Arbitration and Conciliation (Amendment) Act 2015.</p> <p>ii) The Contractor shall nominate an arbitrator from the said Panel within fifteen days from the date of receipt of the List of Panel from the Employer. The Employer shall nominate its Arbitrator from the said Panel within 15 days thereafter.</p> <p>iii) If the proposal for referring the dispute to Arbitration is made by the Employer to the Contractor, it shall forward such proposal to the Contractor along with the nomination of its Arbitrator from the said Panel. The Contractor shall, within fifteen days of receipt of the list of Panel from the Employer, nominate its arbitrator from the Panel.</p> <p>iv) If either party fails to nominate its Arbitrator within the prescribed time limit as mentioned above, after the nomination by the other party, then such other party, after the expiry of the prescribed time limit, has the right to nominate the arbitrator from the Panel, on behalf of the party failing to nominate. The two arbitrators so nominated, shall appoint the Presiding Arbitrator from the Panel referred above, by mutual consultation among themselves, within 15 days of the appointment of the second Arbitrator.</p> <p>v) If no consensus is reached within 15 days regarding the appointment of the Presiding Arbitrator, either party may apply to the Designated Court referred to in the Arbitration and Conciliation Act, 1996 as amended by the Arbitration and Conciliation (Amendment) Act 2015 for the appointment of the Presiding Arbitrator.</p> <p>vi) The Parties agree that the selection and nomination of Arbitrators from the Panel should be based on the nature and subject matter of dispute to be adjudicated upon, that is, the nominated Arbitrators shall have sufficient</p>	<p>dispute to Arbitration. If the proposal is initiated by the Contractor, such proposal shall be addressed to the Employer and the Employer shall, within fifteen days from the date of receipt of such proposal, send a Panel of Dispute Board members/Arbitrators to the Contractor. Such panel of independent persons, shall meet with the requirement relating to the independence or impartiality of arbitrators referred to in the Fifth and Seventh schedules, read with Section 12, sub-sections (1) (a), (b) and (5) of the Indian Arbitration and Conciliation Act, 1996 as amended by the Arbitration and Conciliation (Amendment) Act 2015.</p> <p>ii) The Contractor shall nominate an arbitrator from the said Panel within fifteen days from the date of receipt of the List of Panel from the Employer. The Employer shall nominate its Arbitrator from the said Panel within 15 days thereafter.</p> <p>iii) If the proposal for referring the dispute to Arbitration is made by the Employer to the Contractor, it shall forward such proposal to the Contractor along with the nomination of its Arbitrator from the said Panel. The Contractor shall, within fifteen days of receipt of the list of Panel from the Employer, nominate its arbitrator from the Panel.</p> <p>iv) If either party fails to nominate its Arbitrator within the prescribed time limit as mentioned above, after the nomination by the other party, then such other party, after the expiry of the prescribed time limit, has the right to nominate the arbitrator from the Panel, on behalf of the party failing to nominate. The two arbitrators so nominated, shall appoint the Presiding Arbitrator from the Panel referred above, by mutual consultation among themselves, within 15 days of the appointment of the second Arbitrator.</p> <p>v) If no consensus is reached within 15 days regarding the appointment of the Presiding Arbitrator, either party may apply to the Designated Court referred to in the Arbitration and Conciliation Act, 1996 as amended by the Arbitration and Conciliation (Amendment) Act 2015 for the appointment of the Presiding Arbitrator.</p> <p>vi) The Parties agree that the selection and nomination of Arbitrators from the Panel should be based on the nature and subject matter of dispute to be adjudicated upon, that is, the nominated Arbitrators shall have sufficient knowledge and experience to decide upon the disputed matter.</p>	Bid conditions will prevail.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses						
30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>adjudicated upon, that is, the nominated Arbitrators shall have sufficient knowledge and experience to decide upon the disputed matter.</p> <p>vii) In the event of an arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason, it shall be lawful to appoint another arbitrator in place of the outgoing arbitrator in the manner aforesaid.</p> <p>viii)Subject to aforesaid, the Arbitration and Conciliation Act,1996 as amended from time to time, and the rules thereunder and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this clause.</p> <p>ix) The Seat of the arbitration shall be Chennai, India.</p> <p>x) The venue of the arbitration shall be Chennai. The cost of Arbitration including the fees of the Arbitrators shall be borne equally by both the parties.</p> <p>2. The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DB relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Engineer from being called as a witness and giving evidence before the arbitrators in any matter whatsoever relevant to the dispute.</p> <p>3. Neither Party shall be limited in the proceedings before the arbitrators to the evidence or arguments previously put before the DB to obtain its decision, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction. Any decision of the DB shall be admissible in the arbitration.</p> <p>4. Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DB shall not be altered by reason of any arbitration being conducted during the progress of the Works.</p>	<p>vii) In the event of an arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason, it shall be lawful to appoint another arbitrator in place of the outgoing arbitrator in the manner aforesaid.</p> <p>viii)Subject to aforesaid, the Arbitration and Conciliation Act,1996 as amended from time to time, and the rules thereunder and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this clause.</p> <p>ix) The Seat of the arbitration shall be Chennai, India.</p> <p>x) The venue of the arbitration shall be Chennai. The cost of Arbitration including the fees of the Arbitrators shall be borne equally by both the parties.</p> <p>2. The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DB relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Engineer from being called as a witness and giving evidence before the arbitrators in any matter whatsoever relevant to the dispute.</p> <p>3. Neither Party shall be limited in the proceedings before the arbitrators to the evidence or arguments previously put before the DB to obtain its decision, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction. Any decision of the DB shall be admissible in the arbitration.</p> <p>4. Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DB shall not be altered by reason of any arbitration being conducted during the progress of the Works.</p> <p>If an award requires a payment of an amount by one Party to the other Party, this amount shall be immediately due and payable without any Statement or Notice.</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
652	Part 2	General	3	<p>The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.</p> <p>When appointing the Member, the Employer and the Contractor relied upon the Member's representations that</p>	<p>In compliance with FIDIC conditions we request new addition of following highlighted portion to clause 3 (of Appendix: GC of DBA) of GCC:-</p> <p>The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.</p> <p>When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:</p> <p>(a) experienced in the work which the Contractor is to carry out under the Contract,</p> <p>(b) experienced in the interpretation of contract documentation, and</p> <p>(c) fluent in the language for communications defined in the Contract.</p> <p>3A (Independence and Impartiality)</p> <p>The DB Member shall:</p> <p>(a) have no financial interest in the Contract, or in the project of which the Works are part, except for payment under the DB Agreement;</p> <p>(b) have no interest whatsoever (financial or otherwise) in the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel;</p> <p>(c) in the ten years before signing the DB Agreement, not have been employed as a consultant or otherwise by the Employer, the</p>	<p>DB conditions will prevail</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
055	Part 5	conditions	5	<p>he/she is:</p> <p>(a) experienced in the work which the Contractor is to carry out under the Contract,</p> <p>(b) experienced in the interpretation of contract documentation, and</p> <p>(c) fluent in the language for communications defined in the Contract.</p>	<p>Contractor, the Employer's Personnel or the Contractor's Personnel;</p> <p>(d) not previously have acted, and shall not act, in any judicial or arbitral capacity in relation to the Contract;</p> <p>(e) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before signing the DB Agreement (or before he/she is deemed to have signed the DB Agreement under the Contract) and to his/her best knowledge and recollection, any:</p> <p>(i) existing and/or past professional or personal relationships with any director, officer or employee of the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel (including as a dispute resolution practitioner on another project),</p> <p>(ii) facts or circumstances which might call into question his/her independence or impartiality, and</p> <p>(iii) previous involvement in the project of which the Contract forms part;</p> <p>(f) not, while a DB Member and for the Term of the DB:</p> <p>(i) be employed as a consultant or otherwise by, and/or</p> <p>(ii) enter into discussions or make any agreement regarding future employment with</p> <p>the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel, except as may be agreed by the Employer, the Contractor and the Other Members (if any); and/or</p> <p>(g) not solicit, accept or receive (directly or indirectly) any gift, gratuity, commission or other thing of value from the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel, except for payment under the DB Agreement.</p>	<p>Bid conditions will prevail.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
				<p>Dispute Board (DB)</p> <p>(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.</p> <p>(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.</p> <p>(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 have overall experience of more than 25 years in the fields of Metro Railways, Railways in any discipline viz; civil construction (elevated/underground), Rolling stock, S&T, Traction and allied fields and should have worked on at least one project funded by MDBs or under Bilateral agreements. These names are obtained from those Organizations, for the purpose of nominating them as DB Members/Arbitrator, who are also not ex-employees or directly or indirectly associated with CMRL.</p>	<p>Request modification as per the following highlighted portion of clause 20.2 of PCC – Part B – Specific Provisions:-</p> <p>Dispute Board (DB)</p> <p>(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.</p> <p>(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.</p> <p>(iii) The DB shall comprise three members. The Employer and the Contractor shall each appoint one DB Member, who shall appoint a third DB Member as the Presiding Officer. ,</p> <p>(iv) In case of the Contractor or the Lead Member of the Contractor (in the case of a Joint Venture or Consortium) being of Japanese origin CMRL will ask the successful bidders to propose few names up to a maximum of twenty from Japan for DB Members/Arbitrator and all such names will be abridged and out of the same. ten names</p>	

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021


SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
654	Part 3	Particular Conditions	56	<p>(iv) In case of the Contractor or the Lead Member of the Contractor (in the case of a Joint Venture or Consortium) being of Japanese origin CMRL will ask the successful bidders to propose few names up to a maximum of twenty from Japan for DB Members/Arbitrator and all such names will be abridged and out of the same, ten names will be shortlisted by the Engineer based on their qualifications, experience etc. These shortlisted ten names will be added to the list of 20 member's panel of DB Members / Arbitrator mentioned above.</p> <p>(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.</p> <p>(vi) The remuneration payable to the DB members shall be as prescribed in the Contract Data Sheet and shall be shared by both Parties equally.</p> <p>(vii) If at any time the Parties so agree, they may jointly refer a dispute or any matter to the DB for it to give its opinion. Neither Party shall consult the DB members on any matter without the agreement of the other Party.</p> <p>(viii) If any member of the DB declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be made in the same manner as the replaced person was appointed.</p> <p>(ix) The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both parties, the appointment of the DB (including each member) shall expire when the discharge referred to in sub clause 14.12 shall have become effective.</p> <p>(x) If either party is dissatisfied with the DB's decision, then the party, on or before 28 days on receipt of such decision, shall notify the other party of its dissatisfaction, and its intention to refer the dispute for Arbitration, failing which the decision of the DB shall be final and binding.</p>	<p>will be shortlisted by the Engineer based on their qualifications, experience etc. These shortlisted ten names will be added to the list of 20 member's panel of DB Members / Arbitrator mentioned above.</p> <p>(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.</p> <p>(vi) The remuneration payable to the DB members shall be as prescribed in the Contract Data Sheet and shall be shared by both Parties equally.</p> <p>(vii) If at any time the Parties so agree, they may jointly refer a dispute or any matter to the DB for it to give its opinion. Neither Party shall consult the DB members on any matter without the agreement of the other Party.</p> <p>(viii) If any member of the DB declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be made in the same manner as the replaced person was appointed.</p> <p>(ix) The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both parties, the appointment of the DB (including each member) shall expire when the discharge referred to in sub clause 14.12 shall have become effective.</p> <p>(x) If either party is dissatisfied with the DB's decision, then the party, on or before 28 days on receipt of such decision, shall notify the other party of its dissatisfaction, and its intention to refer the dispute for Arbitration, failing which the decision of the DB shall be final and binding.</p> <p>(xi) The Parties agree that any interest payable on arbitral award shall be payable @ eighteen (18) % p.a.</p> <p>(xii) Each Party shall be responsible for the payment of its respective arbitration costs.</p>	Bid conditions wil prevail.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
655	Part 1	Bidding Forms	3.1.5	As single rate of custom duty is available under project imports scheme under heading 98.01 of Custom Tariff Act 1975 for import of capital goods, the advantage of the same may be considered under project import scheme. After award of the Contract, Employer at the written request of a contractor shall facilitate the contractor for obtaining sponsoring / recommendation letter from the Ministry of Urban Development (MoUD) / GOI for getting themselves registered for availing Project Import benefits. However, the responsibility to avail the concessional benefits under Project Import or otherwise as extended in accordance with the law of the land shall solely rest with the Contractor.	Or Alternatively, can project import benefit be applied even in case materials are being imported under IEC of Contractor?	The Contactor is obligated to use both his IEC and CMRL IEC to establish that end use of imports is for Project benefit scheme and get the advantage of concessional duty. If it is done under his IEC he may not be able to get project import benefits. This requirement may be clarified with Heading 98.01 of Customs Tariff Act,1975
656	Part 3	General Conditions	14.1	Notwithstanding the provisions of sub-paragraph (b), the Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.	In clause 3.1.5 of section 3 of Part I of the tender document, it is started that a single rate of custom duty would be available. However, in this clause, it is stated that the import duties and taxes are exempt. Are the goods imported for the purpose of this project exempted from import duties (IGST and customs duty related to imports) and taxes i.e., @ 0% rate?	Particular conditions clause 48 is self explanatory. Tender conditions prevails
657	Part 1	Bidding Forms	4.1.7	Wherever the Bidder comprises a JV/Consortium and the Bidder desires separate payments to each Member of the Consortium, the Bidder shall clearly lay down the Milestones / Currencies allocated to the different Members of the JV/Consortium, which shall be in agreement with the intended percentage share of the Members as indicated in the Consortium agreement for this Contract.	Payment to individual partners is allowed which means submission of invoice separately by JV/Consortium partners through lead member is allowed. Please confirm.	Payment will be made only to Bank Account of JV/Consortium and not to the bank account of individual member of JV/Consortium.
658	Part 1	Bidding Forms	4.3.2	Note 6: The bidders shall note that the customs duty, GST, levies, etc. indicated in the above table are considered to be included in the lumpsum price (Price centre wise) i.e. Bid Total in INR currency and will be reimbursed by the Employer in INR only, upon submission proof of discharge of contractor's liability subject to the ceiling of the amounts indicated in the above table.	Please confirm if the entry in GSTR 1 shall suffice as a proof of payment for discharging contractor's liability towards GST? Similarly, if the importer is contractor (using the IEC code of the contractor), the bill of entry will be in the name of the contractor. In this case, can the bill of entry be used as a proof of payment for payment towards customs duty?	GSTR1 and GSTR3B and Paid challan may be provided towards GST liability being discharged by the Contractor. The importer is obligated to use both his IEC and CMRL IEC to establish that end use of imports is for Project benefit scheme and get the advantage of concessional duty and duty paid challan and Bill of entry may be provided as proof of payment.


ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
659	Part 3	Particular Conditions	32	Ownership of the Plant and Equipment (including spare parts) to be imported into the country where the Site is located shall be transferred to the Employer at high seas. Contractor shall maintain all insurance and bear all risks for safe handling and transport of the Plant and materials until delivery to Employer's depot site.	Under this scenario, employer IEC code and GST number shall be used for importing the material. The IGST applicable for import shall be 18%, as the same cannot be treated as a works contract. Please confirm our understanding.	The IGST paid for imports is available to the contractor for input credit. It may be suitably adjusted by Contractor from his GST output liability.Hence all GST would be as per Contractual obligations as " Works Contract" only
660	Part 1	Bid Data Sheet	ITB 11.2	B. Bid Security/EMD: Shall be Paid by BG/NEFT/RTGS/Demand Draft/SWIFT. Scanned copy of BG/NEFT/RTGS/DD/SWIFT to be uploaded online at the time of bid submission.	<p>If members of the consortium are from the same group, can the bid bond/ EMD be issued by lead member/ any member?</p> <p>Further, if members of the consortium are from the same group, please clarify if the advance bank guarantee (BG) /Performance BG /Retention money bank guarantee can be issued by the lead member/ any member?</p>	The Contactor in all cases will be the JV/Consortium and the BG are supposed to be from the Contractor that is JV/Consortium and not from individual or lead member.
661	N/A	N/A	N/A	Bank guarantees	If members of the consortium are from the same group, can lead member/ any member provide all bank guarantees(Performance, Advance etc) on behalf on the consortium? Please confirm	The Contactor in all cases will be the JV/Consortium and the BG are supposed to be from the Contractor ie JV/Consortium and not from individual or lead member.
662	Part 3	Particular Conditions	52	Any charges or fees associated with or incidental to remittance of funds from JICA/ Employer to the Contractor's account including but not limited to those for opening and amendment commissions of the Letter of Credit shall solely be borne by the Employer	<p>Please clarify which portion of the payment will be made through LC.</p> <p>Our understanding is that the payments will be made directly to the individual consortium member's respective account including in the case of LC payment. Please confirm.</p>	In case the successful bidder being a JV/Consortium , payment will be made only to Bank Account of JV/Consortium and not to the bank account of individual member of JV/Consortium. LC based remittance alone will be met.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
663	Part 3	Particular Conditions	52	<p>“Payment of the amount due in:</p> <p>(A) local currency, payable from the proceeds of the Loan, shall be made through as stated in the Contract Data; and</p> <p>(B) foreign currency, payable from the proceeds of the Loan, shall be made through as stated in the Contract Data.</p> <p>Payment of the amount due in each currency, payable from any source of finance other than the Loan Agreement such as the Employer’s own funds, shall be made directly into the bank account opened by the Contractor in the name of JV as notified by the Contractor.</p>	<p>Similar to the JICA portion of payments, we request you to make the payments directly to the individual consortium member's respective account, in case the payment of the amount is from any source of finance other than the Loan Agreement such as the Employer’s own funds.</p>	<p>In case the successful bidder being a JV/Consortium , payment will be made only to Bank Account of JV/Consortium and not to the bank account of individual member of JV/Consortium</p>
664	Part 1	Bidding Forms	4.2	<p>Bidders shall quote for the above Price Centres including all taxes and duties including GST, Customs Duty, levies and fees. A self-declaration from the Contractor based on Clause 171 of GST (Anti-profiteering rule) shall be attached by the Contractor along with their invoices.</p>	<p>As per our understanding, the Anti-profiteering clause is not relevant as the bidding is happening pursuant to introduction of GST law. Request you to remove this clause.</p>	<p>The Crux of Anti-profiteering applies (per Sec 171 (1) of GST act)when there is a reduction in tax rates or benefit of input tax credit and per tender condition, GST is always paid on production of proof of payment. We will not be able to remove this clause.</p>
665	Part 3	Particular Conditions	13	<p>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. The Employer shall provide the necessary assistance to the Contractor.</p>	<p>If the services are directly rendered from an overseas member of the consortium, the employer shall bear the cost of relevant GST under a reverse charge mechanism and remit the same to the government. Please confirm our understanding</p>	<p>The Contractor is a Consortium and hence CMRL will only treat it as a Consortium at all times. There is no question of any separate services being rendered by a member of Consortium and hence all GST would be as per Contractual obligations as " Works Contract" only</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021																																																																																																																		
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response																																																																																																												
666	Part 2	Safety Manual	4.4.1	<div><div>Table 1 Mandatory Contractor OHS&E management resource requirement</div><table><tr><th></th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th></tr><tr><td>Awarded Contract value (in Cr.)</td><td>Chief OHS&E Manager (Safety Manager) (Key Staff)</td><td>Senior OHS&E Manager</td><td>Junior OHS&E Manager</td><td>Safety Supervisor</td><td>Senior OHS&E (Electrical) Manager</td><td>Junior OHS&E (Electrical) Manager</td><td>Public Liaison Officer</td></tr><tr><td>Upto 100</td><td>1</td><td>-</td><td>1</td><td rowspan="4">Refer Note 3</td><td>-</td><td>1</td><td>1</td></tr><tr><td>Upto 200</td><td>1</td><td>1</td><td></td><td>1</td><td></td><td>1</td></tr><tr><td>Upto 300</td><td>1</td><td rowspan="2">Refer Note 1</td><td rowspan="2">Refer Note 2</td><td>1</td><td rowspan="2">Refer Note 4</td><td>1</td></tr><tr><td>Upto 400</td><td>1</td><td></td><td>1</td><td>1</td></tr><tr><td>Upto 500</td><td>1</td><td></td><td></td><td></td><td>1</td><td></td><td>1</td></tr></table><div>Section VI-B Volume -1 OHS&E-Control</div><div>1-10</div><div>February 2021</div><div>Chennai Metro Rail Project Phase 2, Corridor 3 TENDER No. CP22/ASAO4</div><div>Part-2 - Section VI-B Employer's Requirements</div><table><tr><th></th><th>1</th><th></th><th></th><th>2</th><th></th><th>2</th></tr><tr><td></td><td>8</td><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td></tr><tr><td>Awarded Contract value (in Cr.)</td><td>Occupational Health officer with Necessary Male Nurse (Refer Note 9)</td><td>Environmental Manager</td><td>Senior OHS&E (Traffic) Engineer</td><td>Barricade Maintenance squad</td><td>House Keeping squad</td><td>Labour Welfare Officer</td></tr><tr><td>Upto 100</td><td>1 (PT)</td><td>1</td><td>1</td><td rowspan="4">Refer Note 7</td><td rowspan="4">Refer Note 8</td><td>1</td></tr><tr><td>Upto 200</td><td>2 (FT)</td><td>1</td><td>2</td><td>2</td></tr><tr><td>Upto 300</td><td>2 (FT)</td><td>1 with Support staff</td><td>2</td><td>2</td></tr><tr><td>Upto 400</td><td>2(FT)</td><td>1 with Support staff</td><td>2</td><td>2</td></tr><tr><td>Upto 500</td><td>2(FT)</td><td>1 with Support staff</td><td>2</td><td></td><td></td><td>2</td></tr><tr><td>More than 500</td><td>2(FT)</td><td>1 with Support staff</td><td>2</td><td></td><td></td><td>2</td></tr></table><p>Note 1: Qualified Senior OHS&E Manager as per table 2 OHS&E Personnel Qualifications & Experience to be deployed at each worksite at each shift.</p><p>Note 2: Qualified Junior OHS&E Manager as per table 2 OHS&E Personnel Qualifications & Experience to be deployed at each worksite at each shift.</p><p>Note 3: Qualified Safety Steward as per table 2 OHS&E Personnel Qualifications & Experience to be deployed at each worksite at each shift.</p><p>Note 4: Qualified Junior OHS&E (Electrical) Manager as per table 2 OHS&E Personnel Qualifications & Experience to be deployed at each worksite at each shift.</p><p>Note 5: (PT) means Part-Time and (FT) means Full-time.</p><p>Note 6: Senior OSH&E (Traffic) Engineer Post and Barricade Manager Posts are applicable to contracts where the work has to be executed either below or over the right-of-way like Viaduct, UG Station, UG Tunnel Contracts wherein erection and maintenance of barricades are paramount important.</p><p>Note 7: One Barricade Manager supported by required supervisors and workmen at each worksite at each shift.</p><p>Note 8: One Housekeeping Manager supported by required supervisors and workmen at each worksite at each shift.</p><p>Note 9: Qualified Male Nurse as per table 2 OHS&E Personnel Qualifications & Experience to be deployed at each worksite at each shift.</p><p>Note 10: The Chief OHS&E Manager (Safety Manager)-Key Staff shall be a professional and experienced manager with at least fifteen (15) years' experience in the construction of underground metro rail Projects with at least 10 year's direct relevant experience in administering of OHS&E of tunnel boring machine (TBM) and UG stations of similar scope in professional experience in OHS&E in international projects, preferably in TBM's tunnel background. The Chief OHS&E Manager should have minimum five years' experience in similar position of similar works.</p></div>		1	2	3	4	5	6	7	Awarded Contract value (in Cr.)	Chief OHS&E Manager (Safety Manager) (Key Staff)	Senior OHS&E Manager	Junior OHS&E Manager	Safety Supervisor	Senior OHS&E (Electrical) Manager	Junior OHS&E (Electrical) Manager	Public Liaison Officer	Upto 100	1	-	1	Refer Note 3	-	1	1	Upto 200	1	1		1		1	Upto 300	1	Refer Note 1	Refer Note 2	1	Refer Note 4	1	Upto 400	1		1	1	Upto 500	1				1		1		1			2		2		8	09	10	11	12	13	Awarded Contract value (in Cr.)	Occupational Health officer with Necessary Male Nurse (Refer Note 9)	Environmental Manager	Senior OHS&E (Traffic) Engineer	Barricade Maintenance squad	House Keeping squad	Labour Welfare Officer	Upto 100	1 (PT)	1	1	Refer Note 7	Refer Note 8	1	Upto 200	2 (FT)	1	2	2	Upto 300	2 (FT)	1 with Support staff	2	2	Upto 400	2(FT)	1 with Support staff	2	2	Upto 500	2(FT)	1 with Support staff	2			2	More than 500	2(FT)	1 with Support staff	2			2	<p>We propose OHS&E Manpower requirements shall be based on Hazards/Risk associated with the project, not on the Order value. This Employers Requirements on OHS&E Manpower looks same for Civil as well as for Systems Contractors, which needs to be discussed and changed as per System Contractor Requirement (Signalling System). We request to trim the OHS&E requirements to the requirement of System contracts. Hereby providing reference from Noida Metro Signalling Contract for your reference.</p>	Bidder shall propose and finalise the requirement with consultation of engineer.
					1	2	3	4	5	6	7																																																																																																							
Awarded Contract value (in Cr.)	Chief OHS&E Manager (Safety Manager) (Key Staff)	Senior OHS&E Manager	Junior OHS&E Manager	Safety Supervisor	Senior OHS&E (Electrical) Manager	Junior OHS&E (Electrical) Manager	Public Liaison Officer																																																																																																											
Upto 100	1	-	1	Refer Note 3	-	1	1																																																																																																											
Upto 200	1	1			1		1																																																																																																											
Upto 300	1	Refer Note 1	Refer Note 2		1	Refer Note 4	1																																																																																																											
Upto 400	1						1	1																																																																																																										
Upto 500	1				1		1																																																																																																											
	1			2		2																																																																																																												
	8	09	10	11	12	13																																																																																																												
Awarded Contract value (in Cr.)	Occupational Health officer with Necessary Male Nurse (Refer Note 9)	Environmental Manager	Senior OHS&E (Traffic) Engineer	Barricade Maintenance squad	House Keeping squad	Labour Welfare Officer																																																																																																												
Upto 100	1 (PT)	1	1	Refer Note 7	Refer Note 8	1																																																																																																												
Upto 200	2 (FT)	1	2			2																																																																																																												
Upto 300	2 (FT)	1 with Support staff	2			2																																																																																																												
Upto 400	2(FT)	1 with Support staff	2			2																																																																																																												
Upto 500	2(FT)	1 with Support staff	2			2																																																																																																												
More than 500	2(FT)	1 with Support staff	2			2																																																																																																												
				<div><div></div><div>DELHI METRO RAIL CORPORATION LTD.</div></div> <div>General Instruction: DMRC/SHE/QI-S&T/001/MPR/031012</div> <div>MANPOWER REQUIREMENT FOR SHE PROFESSIONALS IN S&T/AFC/IT CONTRACTS</div> <table><tr><th></th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr><tr><td>Awarded Contract Value(In Cr.),</td><td>Chief SHE Manager/Engineer/Accident Prevention officer</td><td>Occupational Health Officer</td><td>Site Safety Officer</td><td>Site Safety Supervisor</td><td>Labour Welfare Officer</td></tr><tr><td>Upto 2</td><td>-</td><td>1</td><td>1</td><td>-</td><td>1</td></tr><tr><td>Upto 10</td><td>-</td><td>1</td><td>1</td><td>-</td><td>1</td></tr><tr><td>Upto 25</td><td>-</td><td>1</td><td>1</td><td>-</td><td>1</td></tr><tr><td>Upto 100</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Upto 250</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>More than 250</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table> <p>*** SHE Steward should be kept at the time of execution at each site, in addition training provision to supervisors for being safety representative.</p> <p>Note: Labour Welfare Officer to be deployed as per requirement indicated as per item 5 of SHE Organization description.</p>		1	2	3	4	5	Awarded Contract Value(In Cr.),	Chief SHE Manager/Engineer/Accident Prevention officer	Occupational Health Officer	Site Safety Officer	Site Safety Supervisor	Labour Welfare Officer	Upto 2	-	1	1	-	1	Upto 10	-	1	1	-	1	Upto 25	-	1	1	-	1	Upto 100	1	1	1	1	1	Upto 250	1	1	1	1	1	More than 250	1	1	1	1	1																																																														
	1	2	3	4	5																																																																																																													
Awarded Contract Value(In Cr.),	Chief SHE Manager/Engineer/Accident Prevention officer	Occupational Health Officer	Site Safety Officer	Site Safety Supervisor	Labour Welfare Officer																																																																																																													
Upto 2	-	1	1	-	1																																																																																																													
Upto 10	-	1	1	-	1																																																																																																													
Upto 25	-	1	1	-	1																																																																																																													
Upto 100	1	1	1	1	1																																																																																																													
Upto 250	1	1	1	1	1																																																																																																													
More than 250	1	1	1	1	1																																																																																																													

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response																																												
667	Part 2	Safety Manual	4.4.2.1	<div><div>Table 2 OHS&E Personnel Qualifications & Experience</div><table><tr><th>Item</th><th>Designation</th><th>Qualification</th><th>Experience (Years)</th></tr><tr><td>1</td><td>Chief OHS&E Manager</td><td>The Chief OHS&E Manager shall be qualified in any of the following qualifications i) M. E/ M.Tech. in Industrial Safety ii) B.E. in Fire and Safety Engg. iii) A recognised degree in any branch of engineering from recognized university with a Minimum one-year Full Time PG Diploma /Diploma from Central labour institute / Regional Labour Institute Mumbai / Chennai / Kolkata /Kanpur/ Diploma in Safety Engineering from State Board of Technical Education iv) A recognised degree in any branch of</td><td>15</td></tr></table><div>Section VI-B Volume -1 OHS&E-Control</div><div>1-14 February 2021</div></div> <div><div>Chennai Metro Rail Project Phase 2, Corridor 3 TENDER No. CP22/ASA04</div><div>Part-2 - Section VI-B Employer's Requirements</div><table><tr><th>Item</th><th>Designation</th><th>Qualification</th><th>Experience (Years)</th></tr><tr><td></td><td></td><td>engineering from recognized university with International qualifications like CSP (Certified Safety Professional), Diploma in NEBOSH</td><td></td></tr><tr><td>2</td><td>Senior OHS&E Manager</td><td>The Senior OHS&E Manager shall be qualified in any of the following qualifications i)M. E/ M.Tech. in Industrial Safety ii)B.E. in Fire and Safety Engg. iii)A recognised degree in any branch of engineering from recognized university with a Minimum one-year Full Time PG Diploma /Diploma from Central labour institute / Regional Labour Institute Mumbai / Chennai / Kolkata /Kanpur/ Diploma in Safety Engineering from State Board of Technical Education iv) A recognised degree in any branch of engineering from recognized university with International qualifications like CSP (Certified Safety Professional), Diploma in NEBOSH</td><td>12</td></tr></table></div>	Item	Designation	Qualification	Experience (Years)	1	Chief OHS&E Manager	The Chief OHS&E Manager shall be qualified in any of the following qualifications i) M. E/ M.Tech. in Industrial Safety ii) B.E. in Fire and Safety Engg. iii) A recognised degree in any branch of engineering from recognized university with a Minimum one-year Full Time PG Diploma /Diploma from Central labour institute / Regional Labour Institute Mumbai / Chennai / Kolkata /Kanpur/ Diploma in Safety Engineering from State Board of Technical Education iv) A recognised degree in any branch of	15	Item	Designation	Qualification	Experience (Years)			engineering from recognized university with International qualifications like CSP (Certified Safety Professional), Diploma in NEBOSH		2	Senior OHS&E Manager	The Senior OHS&E Manager shall be qualified in any of the following qualifications i)M. E/ M.Tech. in Industrial Safety ii)B.E. in Fire and Safety Engg. iii)A recognised degree in any branch of engineering from recognized university with a Minimum one-year Full Time PG Diploma /Diploma from Central labour institute / Regional Labour Institute Mumbai / Chennai / Kolkata /Kanpur/ Diploma in Safety Engineering from State Board of Technical Education iv) A recognised degree in any branch of engineering from recognized university with International qualifications like CSP (Certified Safety Professional), Diploma in NEBOSH	12	<p>For Chief OHS&E Manager and Senior OHS&E Manager, We seek relaxation in Educational Qualification requirements (as per BOCW Act) and also Number of Years of experience . Getting People with this Qualification & Years of Experience is very difficult and considering the Hazards/Risks Associated with Signalling work, requesting client to dilute the requirements defined.</p> <p>Hereby providing reference from Noida Metro Signalling Contract for your reference.</p> <div><div></div><div>DELHI METRO RAIL CORPORATION LTD.</div><div>General Instruction : DMRC/SHE/GI-Signalling/002/QE/031012</div></div> <div><div>MINIMUM QUALIFICATION AND EXPERIENCE FOR [SHE] SAFETY, OCCUPATIONAL HEALTH AND LABOUR WELFARE PROFESSIONALS- S&T/AEC/IT CONTRACTS</div><table><tr><th>Sl. No.</th><th>Designation</th><th>Qualification</th><th>Experience (In years)</th></tr><tr><td>1</td><td>Chief SHE Engineer/Officer/Manager</td><td>The Chief SHE Manager shall have qualified in any of the following degrees/diplomas: i) B.E/B.Tech/ B. Sc. and Govt. recognized full time one year duration Degree / Diploma Course in Safety Engineering OR ii) International qualifications like CSP (Certified Safety Professional), NEBOSH, MOSH, MSISO etc. OR iii) Any Graduate or diploma holder with 7 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis</td><td>3 for category (i), 5yrs for category (ii) and 7 years for category (iii)</td></tr><tr><td>2</td><td>Site Safety Officer</td><td>i) Degree in Science / Diploma in Engineering with Govt. recognized Safety diplomas from State Technical Boards. OR ii) Any Graduate or diploma holder with 5 years of work experience or Designated Officer who has successfully completed SHE Training of 2 week/12 days/96 hours duration from DMRC approved agency</td><td>1 (for category (i) only)</td></tr><tr><td>3</td><td>Site Safety Supervisor/ Warden/ Steward</td><td>Any basic qualification with any SHE related certificate courses or Designated Supervisor/Foreman having formal school education and has successfully completed SHE Training of one week/5 days/48 hours duration from DMRC approved agency</td><td>1</td></tr></table><div>Page 94</div></div> <div><table><tr><td>4</td><td>Occupational Health Officer</td><td>MBBS with Govt. recognized degree/diploma in Industrial/ occupational health. (A visiting Doctor who is engaged to visit the contract as per the schedule and frequency agreed by DMRC will be accepted)</td><td>1</td></tr><tr><td>5</td><td>Labour Welfare Officer</td><td>Any Degree with Govt. Recognized Degree / Diploma / P.G Diploma in Labour Welfare related fields like Law, Personnel / Industrial Relations etc.</td><td>1</td></tr></table><div><div>Note</div><div>In some extraordinary cases where the candidate had earlier worked in DMRC Projects, they can be considered for mobilization depending upon the qualification and no. of years of experience on a case to case basis.</div></div></div>	Sl. No.	Designation	Qualification	Experience (In years)	1	Chief SHE Engineer/Officer/Manager	The Chief SHE Manager shall have qualified in any of the following degrees/diplomas: i) B.E/B.Tech/ B. Sc. and Govt. recognized full time one year duration Degree / Diploma Course in Safety Engineering OR ii) International qualifications like CSP (Certified Safety Professional), NEBOSH, MOSH, MSISO etc. OR iii) Any Graduate or diploma holder with 7 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis	3 for category (i), 5yrs for category (ii) and 7 years for category (iii)	2	Site Safety Officer	i) Degree in Science / Diploma in Engineering with Govt. recognized Safety diplomas from State Technical Boards. OR ii) Any Graduate or diploma holder with 5 years of work experience or Designated Officer who has successfully completed SHE Training of 2 week/12 days/96 hours duration from DMRC approved agency	1 (for category (i) only)	3	Site Safety Supervisor/ Warden/ Steward	Any basic qualification with any SHE related certificate courses or Designated Supervisor/Foreman having formal school education and has successfully completed SHE Training of one week/5 days/48 hours duration from DMRC approved agency	1	4	Occupational Health Officer	MBBS with Govt. recognized degree/diploma in Industrial/ occupational health. (A visiting Doctor who is engaged to visit the contract as per the schedule and frequency agreed by DMRC will be accepted)	1	5	Labour Welfare Officer	Any Degree with Govt. Recognized Degree / Diploma / P.G Diploma in Labour Welfare related fields like Law, Personnel / Industrial Relations etc.	1	<p>Bid Condition Prevails</p>
Item	Designation	Qualification	Experience (Years)																																															
1	Chief OHS&E Manager	The Chief OHS&E Manager shall be qualified in any of the following qualifications i) M. E/ M.Tech. in Industrial Safety ii) B.E. in Fire and Safety Engg. iii) A recognised degree in any branch of engineering from recognized university with a Minimum one-year Full Time PG Diploma /Diploma from Central labour institute / Regional Labour Institute Mumbai / Chennai / Kolkata /Kanpur/ Diploma in Safety Engineering from State Board of Technical Education iv) A recognised degree in any branch of	15																																															
Item	Designation	Qualification	Experience (Years)																																															
		engineering from recognized university with International qualifications like CSP (Certified Safety Professional), Diploma in NEBOSH																																																
2	Senior OHS&E Manager	The Senior OHS&E Manager shall be qualified in any of the following qualifications i)M. E/ M.Tech. in Industrial Safety ii)B.E. in Fire and Safety Engg. iii)A recognised degree in any branch of engineering from recognized university with a Minimum one-year Full Time PG Diploma /Diploma from Central labour institute / Regional Labour Institute Mumbai / Chennai / Kolkata /Kanpur/ Diploma in Safety Engineering from State Board of Technical Education iv) A recognised degree in any branch of engineering from recognized university with International qualifications like CSP (Certified Safety Professional), Diploma in NEBOSH	12																																															
Sl. No.	Designation	Qualification	Experience (In years)																																															
1	Chief SHE Engineer/Officer/Manager	The Chief SHE Manager shall have qualified in any of the following degrees/diplomas: i) B.E/B.Tech/ B. Sc. and Govt. recognized full time one year duration Degree / Diploma Course in Safety Engineering OR ii) International qualifications like CSP (Certified Safety Professional), NEBOSH, MOSH, MSISO etc. OR iii) Any Graduate or diploma holder with 7 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis	3 for category (i), 5yrs for category (ii) and 7 years for category (iii)																																															
2	Site Safety Officer	i) Degree in Science / Diploma in Engineering with Govt. recognized Safety diplomas from State Technical Boards. OR ii) Any Graduate or diploma holder with 5 years of work experience or Designated Officer who has successfully completed SHE Training of 2 week/12 days/96 hours duration from DMRC approved agency	1 (for category (i) only)																																															
3	Site Safety Supervisor/ Warden/ Steward	Any basic qualification with any SHE related certificate courses or Designated Supervisor/Foreman having formal school education and has successfully completed SHE Training of one week/5 days/48 hours duration from DMRC approved agency	1																																															
4	Occupational Health Officer	MBBS with Govt. recognized degree/diploma in Industrial/ occupational health. (A visiting Doctor who is engaged to visit the contract as per the schedule and frequency agreed by DMRC will be accepted)	1																																															
5	Labour Welfare Officer	Any Degree with Govt. Recognized Degree / Diploma / P.G Diploma in Labour Welfare related fields like Law, Personnel / Industrial Relations etc.	1																																															

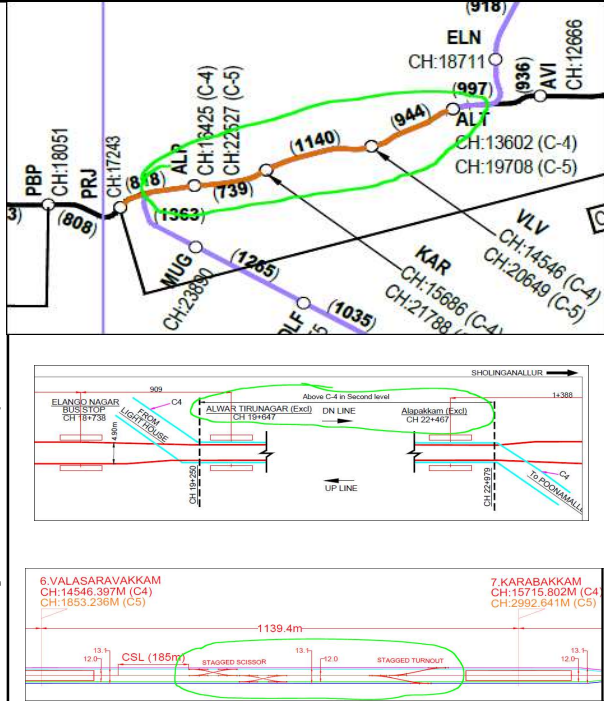
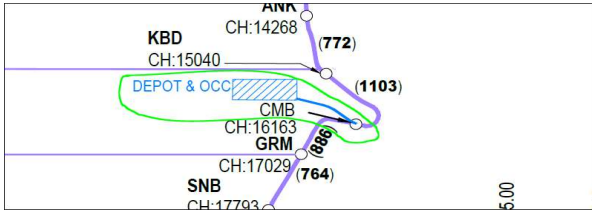
ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
668	Part 2	Safety Manual	4.3.2	<p>International Standards, Guidelines & ISO Certifications If the requirements stated in this document are in conflict or inconsistent with the requirements of applicable laws or the Employer's Requirements for the CMRL project, the more stringent requirements shall apply. The works shall be undertaken in accordance with the applicable international guidelines, standards and specifications on OHS&E and every Contractor shall actively</p> <p>Section VI-B Volume -1 OHS&E-Control</p> <p>1-9 February 2021</p> <hr/> <p>Chennai Metro Rail Project Phase 2, Corridor 3 TENDER No. CP22/ASA04</p> <p>Part-2 - Section VI-B Employer's Requirements</p> <p>pursue the achievement of:</p> <ul style="list-style-type: none"> ISO 45001:2018 Occupational health and safety (OH&S) management system ISO 14001:2015 Environmental management systems <p>The process of international certification to ISO 45001:2018 and ISO 14001:2015 standard shall commence immediately after the award of Contract through appointment of ISO-accrediting body for obtaining the certification. Should this not be undertaken by the Contractor within 3 months of the Contract award, the Employer /Engineer shall appoint at the Contractor's cost.</p> <p>Should the Contractor already possess such certification, the scope of the CMRL project must be included on the Contractor's certification within 1 year of Contract commencement and proof of such attainment demonstrated to Chennai Metro Rail Limited.</p> <p>If any of the above mentioned clauses are not adhered penalty shall be imposed as per details given under penalty clause 4.8.3 of this document.</p>	<p>Hitachi Rail STS India Pvt. Limited is ISO 14001:2015 (EMS) and ISO 45001:2018 (OH&S MS) certified organisation.</p> <p>Once order awarded, Chennai Metro Project scope will be added into the existing certification for ISO 14k&45K after successful project ISO Audit. Also note that ISO audit is generally happens yearly. So certification within 3 months of contract needs to be diluted.</p>	Once order awarded, Chennai Metro Project scope shall be added into the existing certification for ISO 14K&45K after successful project ISO Audit is acceptable.
669	Part 2	Safety Manual	4.3.6	<p>The Contractor shall produce a Contract Specific Construction OHS&E new Austrian tunnelling method (NATM) Plan and submit to the Employer /Engineer within 28 days of commencement.</p>	<p>We understand this is not Applicable for Signalling Contractor.</p>	Refer Addendum
670	Part 2	Safety Manual	33.5	<p>33.5 Medical Staff 33.5.1 A qualified Doctor, Nurse and assistant Nurse shall be in attendance at the first aid base during all times when work is being undertaken on the site.</p>	<p>We propose full time Qualified Nurse at First Aid Centre. We can also arrange for a Tie up with nearest Hospital to ensure availability of Qualified Doctor as and when required for medical checkups etc. Please amend the clause accordingly.</p>	Refer Addendum
671	Part 2	Safety Manual	33.6	<p>33.6 Ambulance 33.6.1 A fully equipped ambulance and driver shall be provided at the first aid base during all working hours. The ambulance shall be equipped with the articles specified in Schedule-IV of TBOWR 2006.</p>	<p>Hospital Tie-up will be done to ensure the availability of Ambulance as and when required. Please amend the clause accordingly.</p>	Refer Addendum
672	Part 2	Safety Manual	56	<p>56. CCTV 56.1 The Contractor shall implement a surveillance CCTV system in Administrative areas, Construction areas (general indoor, general outdoor, tunnel and general underground work areas, mucking and scaling), Maintenance / Operating areas, Mechanical/electrical equipment rooms, Warehouses and storage rooms/area, Casting yard, Labour Colony, Health Centres and First aid stations and infirmaries, Parking areas, Visitor areas and Laboratories with cameras strategically positioned at high-risk areas for purpose of monitoring site conditions and deterring unsafe work practices. The number and location of cameras installation shall be subjected to the acceptance of the Employer /Engineer. The contractor shall submit the CCTV installation and monitoring plan to Employer /Engineer.</p> <p>56.2 The CCTV shall facilitate viewing of live and recorded images. Access to viewing and controlling of all cameras shall be via a standard web browser and/or wireless Local Area Network (LAN) by the authorized users. All cameras shall be weatherproof and come with pan/tilt functions, zoom lens and the ability to operate under low light conditions.</p> <p>56.3 All camera recordings shall have camera id and location/area of recording as well as date/time stamp which cannot be altered, ensuring the audit trail is intact for evidential purposes. Sufficient storage (hard disk space) shall be provided for all the camera recordings for a period of 30 days or more @ 30 frames per second (FPS), at 4 common intermediate format (CIF) or better quality using the necessary compression techniques for all cameras. A backup system shall be maintained to protect against server or storage failure.</p> <p>56.4 The storage system should allow retrieval of data instantaneously or any date/time interval chosen through search functionality of the application software. The system shall have the facility to export the desired portion of clipping (from a desired date/time to another desired date/time) onto a CD, DVD or any other device in a format which can be replayed through standard PC based software.</p>	<p>We can have CCTV in our controlled area like Offices and Store, but installing CCTV all around the construction area (which includes all Viaduct/Stations/Tunnel area etc) is not possible. Please amend the clause accordingly</p>	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
673	Part 2	Particular Specifications	4.7.2	The contractor shall comply to the following standards, as a minimum. a) ISO/IEC 13335. b) ISO/IEC 27005. c) ISO/IEC 31000. d) ISO/IEC 15408. e) ISO 27032. f) IEC 62443 g) TS 50701	27032 is a guideline only, TS 50701 is in a draft stage. We request the employer to review the list of standards and confirm if the below Cybersecurity standards are sufficient in Clause#4.7.2: a)ISO/IEC 27005 b)IEC 62443 (with baseline Security Level 2 capabilities in IEC 62443--3)	Bid condition prevails
674	Part 2	Particular Specifications	14.5.3	The Contractor shall inform the Employer/Engineer immediately when a fault is discovered within delivered software or documentation.	We request the Employer to clarify the expected time to notify the Employer/Engineer. For example: within 5 business days etc.	Immediatly means 3 busineess days
675	Part 2	Particular Specifications	14.5.5	The Contractor shall notify the Employer/Engineer promptly of any fixes or patches that are available to correct or patch faults.	We request the Employer to clarify the expected time to notify the Employer/Engineer. For example: within 5 business days etc.	promptly means 3 busineess days
676	Part 2	Tender Drawings	Corridor 4- GAD Track Plan		UG-01 1.Point chainages not available at Light House. 2.Two lines (UP & DN) are merging into a single lines at Kucheri Road, Alwarpet, and Bharathidasan road, but no Point cross over have shown. Please clarify. UG-02 1.Two lines (UP & DN) are merging into a single lines at Kodambakkam, but no Point cross over have shown. Please clarify. ECV01 1.Four stations common for Corridor C4 & C5. How these four stations will be operated? Is there separate lines for C4 and C5 for this common section? In GAD separate lines have not shown.	UG-01 . in C4, the tunnels follow same horizondal profile in many areas. IN these locations, the tunnels are one above the other. IG-02 . in C4, the tunnels follow same horizondal profile in many areas. IN these locations, the tunnels are one above the other. ECV 01 Four platforms exists per station. The upper platforms accomodates Corridor 5 and the lower platforms accomodates corridor 4. The track area (UP, DN lines) of C4 and C5 are completely segregated and are in two different levels.

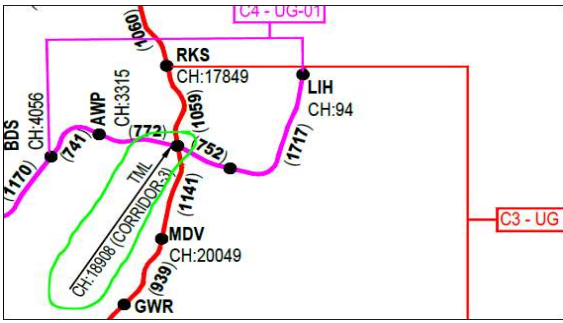
ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
677	Part 2	Particular Specifications	2.2.5	A service loop is available between C4 and C5 near Karambakkam station which is for passenger train movement as well as for rake movement with all functions of UTO, ARS, Timetable, Passenger information systems etc. Service loop will be used by other unequipped vehicles also.	<p>4 Stations ALWARTHI RU NAGAR, VALASARAVAKKAM, KARABAKKAM, ALAPAKKAM JUNCTION are shown in both Corridor 4 and 5. Plea let us know the following:</p> <p>1.If the above 4 station only pertains to Corridor 4 or also included in Corridor 5. If the same stations are also included in corridor 5 then will Corridor 5 have separate platform at different levels for these 4 stations or will share same platform with Corridor 4 ?</p> <p>2.Will the train running at corridor 5 will stop at all the above 4 stations having separate corridor 5 platforms.</p> <p>3.The staggered scissor crossover and staggered turnout at Karabakkam station are with Corridor 4 track or with corridor 5 track.</p> <p>4.Are Corridor 4 and Corridor 5 both are interconnected at Karabakkam station ?</p> <p>5.Will trains running at Corridor 3 and Corridor 5 be stabled at MADHAVARAM DEPOT and trains running at Corridor 4 will be stabled at POONAMALLEE DEPOT ? Or any trains running at any corridor can be stabled at any depot considering there is Corridor C4 - C5 interconnection at Karabakkam station ?</p>	<p>For the said stations, four platforms exists per station. The upper platforms accomodates Corridor 5 and the lower platforms accomodates corridor 4.</p> <p>The track area (UP, DN lines) of C4 and C5 are completly segregated and are in two different levels.</p> <p>To connect these two corridors a service loop is available near Karambakkam station.</p> <p>The scissor crossovers are used at the Corridor 5 end of the service loops. Two independent crossovers are used at the corridor 4 end of the service loop.</p> <p>Any trains running in any corridor can be stabled in any depot, based on the Operational plan prepared based on that times operational needs.</p> <p>Apart from the rake movement, passenger train movement also shall be possible through the service loop to/ from Madhavaram side and Elcot side of Corridor 5.</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
678	Part 2	Tender Drawings	1-2 Phase II - ROUTE MAP - STATION CODE & CONTRACT PACKAGE		<p>4 Stations ALWARTHI RU NAGAR, VALASARAVAKKAM, KARABAKKAM, ALAPAKKAM JUNCTION are shown in both Corridor 4 and 5. Plea let us know the following:</p> <ol style="list-style-type: none"> 1.If the above 4 station only pertains to Corridor 4 or also included in Corridor 5. If the same stations are also included in corridor 5 then will Corridor 5 have separate platform at different levels for these 4 stations or will share same platform with Corridor 4 ? 2.Will the train running at corridor 5 will stop at all the above 4 stations having separate corridor 5 platforms. 3.The staggered scissor crossover and staggered turnout at Karabakkam station are with Corridor 4 track or with corridor 5 track. 4.Are Corridor 4 and Corridor 5 both are interconnected at Karabakkam station ? 5.Will trains running at Corridor 3 and Corridor 5 be stabled at MADHAVARAM DEPOT and trains running at Corridor 4 will be stabled at POONAMALLEE DEPOT ? Or any trains running at any corridor can be stabled at any depot considering there is Corridor C4 - C5 interconnection at Karabakkam station ? 	<p>For the said stations, four platforms exists per station. The upper platforms accomodates Corridor 5 and the lower platforms accomodates corridor 4.</p> <p>The track area (UP, DN lines) of C4 and C5 are completely segregated and are in two different levels.</p> <p>To connect these two corridors a service loop is available near Karambakkam station.</p> <p>The scissor crossovers are used at the Corridor 5 end of the service loops. Two independent crossovers are used at the corridor 4 end of the service loop.</p> <p>Any trains running in any corridor can be stabled in any depot, based on the Operational plan prepared based on that times operational needs.</p> <p>Apart from the rake movement, passenger train movement also shall be possible through the service loop to/ from Madhavaram side and Elcot side of Corridor 5.</p>
679	Part 2	Tender Drawings	1-2 Phase II - ROUTE MAP - STATION CODE & CONTRACT PACKAGE		<p>There is a 'Depot & OCC' shown near CMB. We understand this is not an depot and there are only 2 depots at MADHAVARAM and POONAMALLEE.</p>	<p>For phase 2 trains to be maintained and stabled only two depots are planned.</p> <p>The OCC of Phase 2 is planned in Koyambedu Depot, which is used for the maintenace of Phase 1 trains. The subject drawing depicts the location of Koyambedu Depot.</p> <p>Koyambedu Depot and phase 2 are not having any connection of tracks. OCC of Phase 2 at Koyambedu Depot will be connected to Phase 2 lines using Fibre Optic Cable as mentioned in the DCS related clauses of PS</p>

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses
30 December 2021

SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
680	Part 2	Tender Drawings	1-2 Phase II - ROUTE MAP - STATION CODE & CONTRACT PACKAGE		We understand the Station (TML) Thirumayilai Metro only pertains to Corridor 3 and there is no interconnection with Corridor 4 at this region.	Thirumayilai station contains 4 platforms, two each for C3 and C4.
681	Part 2	Tender Drawings	Depot GADS	N/A	<p>At POONAMALLEE DEPOT the stabling capacity for 14 stabling lines is for 28 trains.</p> <p>At MADHAVARAM Depot the stabling capacity for 10 stabling lines is roughly estimated for 46 trains.</p> <p>So total 28+46= 72 trains.</p> <p>Where will the (138-72) remaining 64 trains be stabled ?</p>	<p>Poonamalle Depot each stabling line can accomodates Four 3-Car trains currently (in future two 6-Car trains).</p> <p>Madhavaram Depot, each stabling line can accomodate Eight 3-Car trains currently and Four 6-car trains in future.</p> <p>As per the Particular specification, system shall have capability of stabling trains in the station platforms, mainline sidings etc in a scheduled manner as per time table.</p>
682	Part 2	Particular Specifications	5.20.16.12	The Contractor shall propose the overall size and layout of the RPS video wall at OCC and BOCC and shall consult the Engineer before finalizing the display screen. The approximate number of cubes in OCC shall be 87 and that of BOCC shall be 30. The final number of the cubes shall be arrived by the comprehensive ergonomics study to be done by the signalling contractor. The overall design of RPS of OCC shall have provision for minimum 20 km extension of lines.	<p>The suggested size of RPS for OCC and BOCC seems to be less for both 3 corridor section and CCTV feed.</p> <p>Apart from this, it ask for provision for 20Km more extension.</p> <p>Kindly note, if such is the case the view will become small and will not easy to view from far distance in OCC.</p>	Refer Addendum
683	Part 2	Particular Specifications	5.20.16.13	RPS at OCC: The allocation of the screen space/cubes for various systems viz signalling, on-board CCTV, Power SCADA, way-side CCTV of Phase 2 shall be finalized in detailed design phase and shall be incorporated in the ergonomic study of various controller positions.	Please clarify the size of RPS required for Power Scada and Wayside CCTV for Phase-2	Refer Addendum
684	Part 2	Particular Specifications	5.20.14.4	All workstation displays shall support high-resolution (1920 x 1200 or higher with 16:10 aspect ratio) colour graphics; all workstations shall be 22-inch flat screen LED screen. All the workstations will be provided with suitable printer ports. All workstation displays for VMS shall be 4K resolution (3840 x2160) and flat screen with 32-inch size.	Request you to kindly amend clause as per below “All workstation displays for VMS shall be high resolution (1920 x 1200 or higher with 16:10 aspect ratio) and flat screen with 32-inch size.	The workstation displays of VMS shall be 4K resolution. Tender condtion prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
685	Part 2	Particular Specifications	5.20.16.4	Video wall at Security Control Room at OCC and BOCC: LCD video walls (4K resolution) with LED light source shall be provided. The video wall shall be bezel less in nature and the inter screen gap shall be less than 5 mm. The approximate diagonal size of each screen shall be 55- 65 inch. The approximate wall area will be 20 sq m. The LCD video wall modules shall be capable of 24x 7 application and the life of light source of the screen shall be not less than 80,000 hours.	Request you to kindly amend clause as per below “Video wall at Security Control Room at OCC and BOCC: LCD video walls (high resolution) with LED light source shall be provided. The video wall shall be bezel less in nature and the inter screen gap shall be less than 5 mm.”	Refer Addendum
686	Part 2	PS-Appendix 2P-1	2.6.3	Rolling stock charecterestics	We consider that all three types of rolling stock are of same characteristics. Please clarify our understanding.	The charecterestics of the type of rolling stock may vary. However, All rolling stocks will comply to 2.6.3 of the Appendix 2P-1.
687	Part 2	PS-Appendix 2M	3.1	The system shall conform to IEEE 1474.1 (2004), IEEE 1474.2 (2003), A200 FRS, Functional Requirements Specification for ETCS (European Train Control System) in general.	The system shall conform to IEEE 1474.1 (2004), IEEE 1474.2 (2003), A200 FRS, Functional Requirements Specification for CBTC (Communication Based Train Control) in general.	Refer Addendum
688	Part 2	Particular Specifications	5.20.21.15.3	The timetable shall automatically generate minimum kilometers of preparatory trips meeting other maintenance and operational requirements (which are input to the timetable).	Please clarify “minimum kilometers of preparatory trips meeting other maintenance and operational requirements”. The meaning of this requirement is not at all clear. What is the meaning of “minimum kilometers of preparatory trips”	The preparatory trips (the trips required for the train to travel as a non-passenger trains) at the beginning of the passenger operation for positioning the trains at the suitable stations to start passenger operation OR can be non-passenger trips at the end of the passenger operation of that train to come to Depot for Maintenace. These non-passenger trips killometers shall be minimised in the algorithms and logics of the time table editor software.
689	Part 2	Particular Specifications	5.23.9.16	The non-CBTC radio communication system shall IEEE 802.11.n or higher. The throughput of non-CBTC radio for the communication from train to the wayside shall be 32 mbps or higher in all scenarios. The non-CBTC radio shall use minimum 2 x2 MIMO spatial streams	In the current scenarios IEEE802.11ac standard for wireless communication is prevalent which enables higher throughput delivery and also 802.11n based RF chipsets are obselete and EoL hence we would recommend considering 802.11ac standard with minimum throughput 32 Mbps or higher in all scenarios.	Refer Addendum

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
690	Part 2	Particular Specifications	5.23.9.8	The radios each shall use one of the free ISM bands. (2.4 GHZ and 5.8 GHZ). CBTC radio shall preferably use 5.8 GHZ.	<p>Going on higher standard IEEE 802.11 ac, which works on 5Ghz frequency only Kindly change to -The radios for non CBTC application shall use free ISM bands operating in 5.4Ghz India WPC (5.150Ghz - 5.250Ghz; 5.250Ghz - 5.350Ghz and 5.470Ghz - 5.725Ghz) and CBTC Radio should be deployed in 5,8Ghz (5.725Ghz - 5.875Ghz India WPC Band)</p> <p>This will ensure separate free ISM bands to be used for deployment of CBTC and non CBTC Radios.</p>	Refer Addendum
691	Part 2	Particular Specifications	5.23.9.4 (a)	For CCTV data transmission from the train to way-side VMS system	Please share total quantity of Number of Cameras per 3 cars Train and 6 cars train (in future) for end point Licences.	<p>Approximatly 22 cameras are envisaged per 3 car train. An additional margin shall be kept as the numbers may marginally vary as a part of the design phase of rolling stock.</p> <p>Clear scope of 3 car and 6 car consist refer Clause 3.6 of PS and its Addendums</p>
692	Part 2	Particular Specifications	4.7.2	<p>The contractor shall comply to the following standards, as a minimum.</p> <p>a) ISO/IEC 13335. b) ISO/IEC 27005. c) ISO/IEC 31000. d) ISO/IEC 15408. e) ISO 27032. f) IEC 62443 g) TS 50701</p>	<p>We understand that ISO/IEC 13335-1:2004 has been withdrawn, ISO 27032 is a guideline only, TS 50701 is in a draft stage. We request the employer to review the list of standards and confirm if the below Cybersecurity standards are sufficient in Clause#4.7.2:</p> <p>c)ISO/IEC 27005 d)IEC 62443 (with baseline Security Level 2 capabilities in IEC 62443--3)</p>	Bid condtions prevails
693	Part 2	Particular Specifications	14.5.3	The Contractor shall inform the Employer/Engineer immediately when a fault is discovered within delivered software or documentation.	We request the Employer to clarify the expected time to notify the Employer/Engineer. For example: within 5 business days etc.	Bid condtions prevails
694	Part 2	Particular Specifications	14.5.5	The Contractor shall notify the Employer/Engineer promptly of any fixes or patches that are available to correct or patch faults.	We request the Employer to clarify the expected time to notify the Employer/Engineer. For example: within 5 business days etc.	Bid condtions prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
695	Part 2	General Specifications	2.1.4	The Employer and the Engineer shall designate 3 nos. of each of their computers for installation, by the Contractor at the Contractor's cost, of software programmes that the Contractor intends to use for the design, programming, production of drawings, etc. All software shall be originals and licensed by the manufacturer and issued at the Contractor's cost.	It is understood that only the SW licenses for program & drawing for 06 nos. of work stations are under the contractor's scope.	Bid condntions prevails
696	Part 2	General Specifications	6.1.4	(1) 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	It is understood that license cost for defined quantity shall be borne by Employer	Bid condntions prevails
697	Part 2	General Specifications	9.1	The Contractor shall provide and maintain acceptable storage facilities exclusively for the CMRL Phase 2 Permanent Works, equipment and materials of all kinds intended for use in carrying out the Works or for incorporation into the Works. Contractor.	We understand that employer shall be providing the rent free plane surface land in line with clause 3.7.3.1 of Part-2 - Section VI A	Kindly Refer the storage land which will be provided by the employer (rent free) till the project execution period in the PArticular conditions Clause 3.7.3.1
698	Part 2	General Specifications	13.8.3	The Engineer response to the submission will normally be made within 30 calendar days of receipt of the submission, The Engineer may extend the Notice of No Objection period depending on the amount of documentation accompanying the submission.	Proposed to modify as below – “The Engineer response to the submission will normally be made within 15 calendar days of receipt of the submission, The Engineer may extend the Notice of No Objection period depending on the amount of documentation accompanying the submission.”	See addendum.
699	Part 2	GS-Appendix 7B	1.1.3	The Contractor Shall develop, BIM Model from level of LOD 300 to LOD 500 (As Built).	We understand that all the required software & licenses with provided by employer's designated interface contractor for developing BIM model from Level LOD 300 to LOF 500.	The software and licence are in the scope of the STC Contractor, only the models will be shared by the respective interface Contractor for necessary updating by STC contractor
700	Part 2	GS-Appendix 7B	1.6	Coordinated Combined Service Model (CCSM) Submission	We understand that all the required software & licenses with provided by employer's designated interface contractor to implement Coordinated Combined Service Model (CCSM)	The software and licence are in the scope of the STC Contractor, only the models will be shared by the respective interface Contractor for necessary updating by STC contractor
701	Part 2	GS-Appendix 7B	1.7	Clash Detection Management	We understand that all the required software & licenses with provided by employer's designated interface contractor to implement Clash Detection Management	The software and licence are in the scope of the STC Contractor, only the models will be shared by the respective interface Contractor for necessary updating by STC contractor

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
702	Part 2	GS-Appendix 8	1.1	The Contractor shall provide within the Site / Works Areas, at other locations agreed with the Engineer, the compounds and facilities for the Employer, the Engineer, the Contractor as required including land for Offices, Material Stores, workshops etc.,	We understand that employer shall be providing the rent free plane surface land in line with clause 3.7.3.1 of Part-2 - Section VI A	Kindly Refer the land (for the site office and the storage facility) which will be provided by the employer (rent free) till the project execution period in the PArticular conditions Clause 3.7.3.1
703	Part 2	GS-Appendix 10	1	<p>The Contractor shall provide accommodation for the Engineer's staff in accordance with the following schedule of offices</p> <ul style="list-style-type: none"> •Total area (Main Office) 300 sq m •Section Offices (3 No) - Total area of offices 100 sq m Each Office •Meeting rooms shall be fitted with flat screen 55in TVs suitable for projection and video conferencing. •The Contractor shall provide all Office Furniture. •Car Parking spaces to be provided , -10 No spaces at the Engineer's main office and -5 No at each of the section offices. All spaces to be shaded. 	We understand that employer shall be providing the rent free plane surface land for the construction of storage facility at suitable location of the site	Kindly Refer the land (for the site office and the storage facility) which will be provided by the employer (rent free) till the project execution period in the PArticular conditions Clause 3.7.3.1
704	Part 3	Particular conditions	Contract Data # 14	<p>Performance Security</p> <p>The Performance Security shall be in the form of a Bank guarantee, in the amounts of 10% of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount</p>	Applicable percentage to be reduced to 3% in pursuant to Ministry of Finance under Government of India notification under "Amtanirbhar Bharat Package 3.0"	Bid condition prevails
705	Part 3	Particular conditions	Contract Data # 22	<p>Percentage of Retention</p> <p>5% from each IPC</p>	Applicable percentage to be reduced to 3% in pursuant to Ministry of Finance under Government of India notification under "Amtanirbhar Bharat Package 3.0"	Bid condition prevails
706	Part 3	Particular conditions	Contract Data # 25	<p>Minimum Amount of Interim Payment Certificates</p> <p>0.5% of the Accepted Contract Amount</p>	Considering tight & overlapping schedule with multiple stages, contractor may face negative cash flow in order to fulfil their obligation, minimum amount restriction to be removed.	Bid condition prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
707	Part 3	Particular conditions	49	The Second & final instalment of the Advance Payment may be paid after: (i)the required Bank Guarantee in the specified format from banks as mentioned above is submitted (ii)the evidence for satisfactory utilization of the First instalment of mobilization is submitted; (iii)mobilization of all the Key Personnel and Equipments as per contract and (iv)Completion of 60% of Preliminary design (Price Centre A2).	Considering tight & overlapping schedule with multiple stages, contractor may face negative cash flow in order to fulfil their obligation, para (iii) & (iv) shall be deleted in line with other Indian metro contract clauses.	Refer addendum
708	Part 3	Particular conditions	51	Issue of Interim Payment Certificates No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 41 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any”	Considering tight & overlapping schedule with multiple stages, contractor may face negative cash flow in order to fulfil their obligation, duration to be reduced up to 14 days in line with other Indian metro contract clause.	Bid condition prevails
709	Part 3	Particular conditions	52	Payment (b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents or, within 15 days after the	Considering tight & overlapping schedule with multiple stages, contractor may face negative cash flow in order to fulfil their obligation, duration to be reduced up to 14 days in line with other Indian metro contract clause.	Bid condition prevails
710	Part 3	Particular conditions	53	14.9 Payment of Retention Money Upon the request of the Contractor, the Employer after issuance of Taking-Over certificate of every Stage commissioning (Refer Cl. 4.4 (Brief Description of Stages) of Part 1 – Section IV, Bidding Forms) may release proportionate share of the withheld retention money specific to that Stage, on submission of Bank Guarantee for an equivalent amount in respective currencies from a Public sector bank (PSB) or Scheduled Commercial Banks in India or any Japanese Bank as listed under Schedule of Commercial Banks by The Reserve Bank of India (RBI), in the format annexed to the Particular Conditions.	Since retention Money is linked with TOC, hence release of proportionate share for relevant section of the TOC shall be unconditional.	Bid conditions prevail

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
711	Part 3	Particular conditions	Contract Data # 19	Maximum amount of delay damages : 10% of the Contract Price	Request you to amend the clause so as to limit to 5% of Contract price.	Bid conditions prevail
712	Part 1	SECTION - IV. A BIDDING FORMS	4.4	Brief Description of Stages	As this sheet is part of pricing document, please amend this sheet for Stage wise with No. of onboards, Route Length elevated/Underground, number of stations (Elevated/Underground), Depots.	The description of stages are provided. The bidder shall derive the route km and stations from the tender drawings. No of onboards, refer Note in clause 4.4
713	Part 1	SECTION - IV. A BIDDING FORMS	4.2	Pricing Summary (BID TOTAL)	Please confirm the basis of fixed allowable apportionment percentages (%) defined for the respective stages. Is it based on Track Kms?	It is based on the efforts per stage as estimated by the employer. Track kms are also one among many parameter for the same
714	Part 1	SECTION - IV. A BIDDING FORMS	4.2	Pricing Summary (BID TOTAL)	We understand that allowable apportionment percentages (%) defined for the respective stages ae FIXED and cannot be altered. Please confirm	Percentages are fixed.
715	Part 1	SECTION - IV. A BIDDING FORMS	7	Certificate confirming No deviation from Bid conditions	<p>As per this form, contractor needs to give unconditional acceptance to the tender conditions. On similar tenders we had opportunity to list out the deviations which can be discussed and settled before awarding of the contract.</p> <p>If we are submitting such form, then we don't have to submit detailed clause by clause statement for each tender conditions. Please confirm</p>	Refer ITB 33 and ITB 34 for more details

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
716	Part 2	Safety Manual	N/A	<small>Chennai Metro Rail Project Phase 2, Corridor 3 TENDER No. CP22/ASA04</small> <small>Part-2 - Section VI-B Employer's Requirements</small> <p>Note 11: No contractor shall engage OHS&E manpower from any outsourcing agencies in which case the effectiveness would be lost. All OHS&E manpower shall be on the payroll of the main contractor only and not on the payroll of any subcontractor or outsourcing manpower agencies etc. This condition does not apply to positions like traffic marshals who are engaged almost on a daily requirement basis.</p> <p>Note 12: Environmental support staff shall be Govt. recognized PG Degree / Degree in Environmental Engineering / Science with minimum of two years of experience of similar scope of work.</p> <p>Note 13: All the OHS&E Personnel Shall be in the payroll of the main contractor.</p> <p>Note 14: The conduct and functioning of the contractor OHS&E personnel shall be monitored by the Employer. Any default or deficiency shall attract penalty as per details given under penalty clause 4.8.3 of this document.</p>	<p>As per this tender condition, we are not allowed to outsource OHS&E resources. We request to consider flexibility to take outsourced staff.</p> <p>This will be discussed and agreed during contract execution.</p>	Bid condition prevails
717	Part 2	GS- Appendix 10	N/A	Site accommodation for Engineer	The number of Engineer's main office (quantity) and place to be confirmed. Also for 3 Nos. of section offices place to be confirmed.	Refer Addendum
718	Part 2	GS- Appendix 10	N/A	Site accommodation for Engineer	Please confirm that the land will be provided by CMRL for all main and section offices.	Refer Addendum which explains the land provided by the employer rent free for the project duration. For other locations of the sectional offices, the contractor has to arrange/rent the office facility for which no land will be provided by the employer.
719	Part 2	Particular Specifications	3.7.3.1	<p>The Contractor will be provided with suitable space at a suitable place for constructing site office and storage facilities for contractor as well as for Employer's Engineer (At 2 depots). The Contractor shall construct the site office and storage facility within 4 months of possession of land given by Employer. The space will be available to the Contractor till end of DLP for whole of works of ASA-04 Contract. The details of the space allotted in various places is as under. Poonamallee Depot premises 2500 sq m</p> <p>Madhavaram Depot premises 2500 sq m</p> <p>Near to Nehru Nagar – SIPCOT section (C3-elevated) Contractor shall make his own arrangements at his own cost</p>	<p>Near to Nehru Nagar – Sipcot section, contractor shall make his own arrangement for storage facilities or site office also? In site office also, then is it main office or section office? Please clarify whether contractor to consider land also at his own cost? If land also, then shall we consider rental premises outside CMRL premises from the time of execution to start at site till completion of DLP is to be clarified.</p>	Refer Addendum which explains the land provided by the employer rent free for the project duration. For other locations of the sectional offices, the contractor has to arrange/rent the office facility for which no land will be provided by the employer.
720	Part 1	ITB	42.4	Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.	What is the probable date of issue of LOA	Successful bidder will be intimated at the appropriate time
721	Part 1	SECTION - IV. A BIDDING FORMS	4.2	JICA 49%, GoTN 51%	For each cost centre funding pattern is given, hope its shown for information purpose, while the contractor gets paid as per allowable apportionment amount	The apportionment by funding agency for each price center is mentioned in 4.2 of bidding forms, for information of the bidder.
722	Part 1	SECTION - IV. A BIDDING FORMS	4.2	MS Excel provided in tender	Is the price schedule to be filled and pdf uploaded or MS EXCEL is to be prepared . As of now just the final summary sheet is there in EXCEL. Being a E-tender, kindly provide MS Excel of complete Price Schedule	As per Secion II - Bid Data Sheet and Section IV - Bidding Forms, the Bidder shall fill their Price Bid in the Excel Price Bid form and to upload in CPP e-procurement only. Any other means of price bid submission will lead to rejection of Bid.

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
723	Part 1	EQC	2.5	Subcontractors/manufacturers Eligible Plant, Material and Services	What are the conditions for sub-contractors in terms of country of origin ? These are those subcontractors whose sow is not part of eligibility criteria. Can the items be sourced from any country including those sharing border with territory of India	Bid condition prevails. Please refer Part 1- Section V, Para 1 for more details.
724	Part 1	EQC	2.4	Specific Experience seeks CBTC works that have been satisfactorily and substantially(iii) completed as a prime contractor (single entity or JV member(iv)) between 1st July 2014 and the bid submission deadline. The work should conform to GOA-4 grade of automation as per EN-62290 (2014).	The requirement is too rigid for a Lead Member to meet (based on the current requirements and definition of a Lead Member). We request you to allow qualification from the consortium members together (combined) and not only from the Lead Member.	Bid conditions prevails
725	Part 1	Eligible Source Countries	A.3	The prime Contractor or, in the case of joint venture, the Indian partners shall be nationals of India or juridical persons incorporated and registered in India, and have their appropriate facilities for producing or providing the goods and services in India, and actually conduct their business there; in the case of a juridical person, a majority of the full-time directors of the company are nationals of India (hereinafter referred to as the “Indian Company”).	Please ammend this requirement. It is very difficult to change the board of full-time directors of a technology conglomerate with nearly 10,000 employees, to meet this requirement Also Siemens Ltd is present in India for more than 60 years serving the Indian market. We are a public limited company in which India citizens are shareholders. It is a little unfair that such restrictive requirements are preventing us from participating in this prestigious project As an alternate, please consider replacing „a majority of the full-time directors“ to „minimum 50% directors“ OR kindly allow companies registered in India under the Indian stock excahnge to participate as eligible bidders.	Bid conditions prevails
726	Part 1	Eligible Source Countries	A	(4) Procurement of goods/services from Japanese manufacturer is mandatory under this package as below: a) Any goods/services of value, minimum 31% of Total Bid Price quoted by the bidder or minimum INR 345 crores, whichever is higher. (5) With regard to Section A. (4) above, the goods procured form the eligible local manufacturing company(ies) invested by Japanese Companies (hereinafter referred to as the “Eligible Local Manufacturing Company(ies)”) can be regarded and counted as Japanese origin if such Eligible Local Manufacturing Company(ies) satisty(ies) all of the following conditions: b) Not less than ten percent (10%) of shares are held by a single Japanese Company or	We understand such content requirement is coming from the JICA loan conditions, therefore we request you to segregate the JICA funded lines from the non JICA funded lines. This will atleast give some opportunities to established non-Japanese Signalling companies to have a fair chance in a large infrastructure project. This will also help Chennai Metro to have the best competitive offers from the market. Please appreciate the fact that Siemens has made significant investments to set up the signalling business in line with Atmanirbhar Bharat, therefore enforcing Japanese content requirements/conditions on a non JICA funded line is disallowing us to participate which would otherwise be a regular multilaterally funded ICB process. Even other cities in India having multiple lines have managed to circumvent the interoperability requirements of CBTC. We would request CMRL to kindly explore these options.	Bid conditions prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
727	Part 1	EQC	2.4.2	<p>(A) A minimum number of 01 (ONE) similar(ii) contract of “Design, Manufacture, Supply, Installation, Testing and Commissioning of Signalling and Train Control Systems with radio based CBTC Signalling system (with moving block principle, CBI, ATP Subsystems) for Metro Rail Projects with metallic wheels on metallic rails” that have been satisfactorily and substantially(iii) completed as a prime contractor (single entity or JV member(iv)) between 1st July 2014 and the bid submission deadline. The work should conform to GOA-4 grade of automation as per EN-62290 (2014). The commissioned work should have been in satisfactory operation for over a year as on bid submission deadline, for the carriage of passengers in GOA4 operation (with required documentary evidence).</p> <p>AND</p> <p>(B) A minimum number of 01 (ONE) similar(ii) contract of “Design, Manufacture, Supply, Installation, Testing and Commissioning of Signaling and Train Control Systems with radio based CBTC Signalling system (with moving block principle, CBI, ATP subsystems) for Metro Rail Projects with metallic wheels on metallic rails of at least 20 Route kms section”, that have been satisfactorily and substantially(iii) completed as a prime contractor (single entity or JV member(iv)) between 1st July 2014 and the bid submission deadline. The work should conform to GOA-2 or GOA-3 or GOA-4 grade of automation as per EN-62290 (2014). The commissioned work should have been in satisfactory operation for over a year as on bid submission deadline, for the carriage of passengers (with required documentary evidence).</p>	<p>▪ Since this project is JICA STEP loan project, eligible bidders are limited to India/Japan firms. In this connection, from the viewpoint of competitive bid, qualification requirements should be relaxed in order to increase the number of the potential bidders.</p> <p>We request to change left 2.4.2 (a) clause as below.</p> <p>(A) A minimum number of 01 (ONE) similar(ii) contract of “Design, Manufacture, Supply, Installation, Testing and Commissioning of Signalling and Train Control Systems with CBTC Signalling system (with moving block principle, CBI, ATP Subsystems) for Metro Rail Projects” that have been satisfactorily and substantially(iii) completed as a prime contractor (single entity or JV member(iv)) or subcontractor between 1st July 2014 and the bid submission deadline. The work should conform to GOA-4 grade of automation. The commissioned work should have been in satisfactory operation for over a year as on bid submission deadline, for the carriage of passengers in GOA4 operation (with required documentary evidence).</p> <p>AND</p> <p>(B) A minimum number of 01 (ONE) similar(ii) contract of “Design, Manufacture, Supply, Installation, Testing and Commissioning of Signaling and Train Control Systems with radio based CBTC Signalling system (with moving block principle, CBI, ATP subsystems) for Metro Rail Projects of at least 8 Route kms section”, that have been satisfactorily and substantially(iii) completed as a prime contractor (single entity or JV member) or subcontractor (iv) between 1st July 2014 and the bid submission deadline. The work should conform to GOA-2 or GOA-3 or GOA-4 grade of automation. The commissioned work should have been in satisfactory operation for over a year as on bid submission deadline, for the carriage of passengers (with required documentary evidence).</p>	Bid conditions prevail
728	Part 1	EQC	2.4.2	(iv) Interfacing, integrated testing & commissioning of Wi-fi Radio networks for CBTC & CCTV Radios	<p>We request to change left 2.4.2 (b) clause as below.</p> <p>(iv) Interfacing, integrated testing & commissioning of Wi-fi Radio networks for CBTC Radio</p>	Bid condtions prevails

ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses 30 December 2021						
SN	Part	Section	Clause	Original Bid condition	Bidder's query	CMRL Response
729	Part 1	EQC	2.4.2	III. Experience of integration of all systems (Platform Screen Door, PA/PIDS, Rolling Stock, CCTV system, Telecommunication, Track, Traction and TVS) in at least one Signalling and Train Control Systems project.	<ul style="list-style-type: none">▪ We request to delete left 2.4.2 (b) clause completely.	Bidcondtions prevails