DESIGN, SUPPLY, CONSTRUCTION, INSTALLATION, TESTING AND COMMISSIONING OF 2X25kV AC ELECTRIFICATION, SIGNALLING & TELECOMMUNICATION, E&M AND ASSOCIATED WORKS ON DESIGN BUILD LUMP SUM BASIS OF SAHNEWAL – PILKHANI SECTION (APPROXIMATELY 175 ROUTE KM OF SINGLE LINE) OF EASTERN DEDICATED FREIGHT CORRIDOR

SYSTEMS WORKS CONTRACT PACKAGE 304

RESPONSES TO PRE-BID QUERIES OF THE BIDDERS

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
773.	Part -2 / Section VI / Volume 5 / Particular Specification / Clause No. 4.2.2 / 1 (e) / Page No. 18 of 135 **Project Data Parameters/ Performance requirement –** The transformer rating for all the stations shall be maximum of two types only.	As per the referred clause, We would like to mention that the auxiliary Transformers for two different locations may or may not be the same as loads will vary from station to station. Sizing of the transformers shall be done in accordance with the actual load schedule as calculated for each location. As a transformer possesses maximum efficiency at a particular load and if the same transformer is operated at extreme small loads, the efficiency & life expectancy of the transformer deteriorates drastically. Hence we request you to kindly amend the clause accordingly.	The provisions of Bidding document shall prevail.
774.	Part -2 / Section VI / Volume 5 / Particular Specification / Clause No. 6.2.15 / 1 (b) / Page No. 45 of 135 **Lighting and Power Distribution Boards** – It shall have a degree of protection not less than IP 54	As per the referred clause, We would like to mention that IP-42 distribution board would suffice for the indoor application and is easily available in market. Moreover, IP-54 Distribution boards are expensive. Hence we request you to kindly amend the clause accordingly.	The provisions of Bidding document shall prevail.
775.	Part -2 / Section VI / Volume 4 / Particular Specification / Clause No. 3.6.9 / Page No. 21 of 162 **Electromagnetic Compatibility (EMC) –** EMC Testing shall be carried out on all equipment identified in the design stage which requires attention regarding EMC in accordance with IEC 61000 and to meet overall compliance to EN 50121	EMC tests require extensive lab set ups and hence will not be feasible to carry out at sites/field. Hence we request you to kindly allow us to submit the related test reports conducted at labs/manufacturing locations. Therefore Kindly amend the clause accordingly.	The provisions of Bidding document shall prevail.
776.	Part -2 / Section VI / Volume 4 / Particular Specification / Clause No. 8.5.7.5 (4) / Page No. 87 of 162	The Cab radio test ports for full specification testing - Full specification testing can be done only in factory facilities/environment with a test bench. Hence we request you to kindly amend the clause	The provisions of Bidding document shall prevail.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	Built-in Test Routine – The cab radio shall be provided with a radio test port to enable full specification testing.	and requirements as… "Relevant test reports on testing should be submitted"	
777.	PS Elect Vol2 Clause 3.2 Design By Computer Simulation	For executing Tender simulation i.e. for finalising the ratings of Traction Transformer & Auto Transformer we require the following data for simulation: 1. Alignment Drawings including Detour area. 2. Gradient Data / Topography 3. Curvature Data. 4. Traction effort and Braking effort characteristics 5. Traction current and braking current characteristics 6. Rolling stock Current Limitation characteristics (If any) 7. Rail Resistance data. 8. Rolling Stock acceleration/deceleration factor details. The data is not provided in the bid document. Request you to kindly provide the same to conduct preliminary simulation for estimation purpose.	Please refer response at query SN-763.
778.	PS Vol2 Electrification: Performance requirements : Cl. no. 5.1.2 (a) The Traction Substation (TSS) at Jagadhari shall include three phase double circuits of on 2 220kV incoming bays (from PGCIL), one 220kV outgoing bays (to Indian Railway) and 132kV outgoing feeder arrangement for IR: comprising of incomer CB's, Bus coupler circuit breakers and outgoing circuit breakers. In addition to the bays, a set of 220/132kV Power Transformers and 132/2x25kV Traction Transformers along with associated switchgears are planned to be installed at Jagadhari TSS shall also have provision of 220kV and 132kV, 3 Phase double circuit including associated switchgears for feeding Indian Railways TSS and IR's transmission line network with outgoing feeder arrangement	As per single line diagram of Jagadhari TSS, following bays will be implemented: 1. 220kV Incoming double circuit line from PGCIL. (only associated switchgear is in the scope of bidder) 2. 2 x 220kV/132kV, 150MVA transformers for stepping down the voltage. 3. 2 x 132kV/2x25kV Traction Transformer bays for locomotives 4. 132kV double circuit for connecting to IR. (Only associated switchgear and 132kV gantry is in the scope of bidder) Number of bays mentioned as per clause 5.1.2 (a) and respective SLD for Jagadhari are different from each other. Please confirm number of 220kV & 132kV within scope of CP-304 is as per clause No. 5.1.2 (a) and NOT as per indicative SLD Jagadhari.	The provisions of Bidding document shall prevail. Pl refer SN – 131 of Addendum No. 14 along with attachment.

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(1)	(2)	(3)	(4)
	respectively.		
779.	PS Elec Vol2: Performance Requirements: Clause 5.2.2, Table 5.2.2 3. A mix of Single Train and Double Train in the ratio of 15:85 percent shall be considered for both UP and DN directions	SLD indicates electrification works for single line only and other line for future provision. However, clause 5.2.2(3) indicates Single & Double train in the ratio of 15:85 in UP & DN line. Equipment rating will be different if power simulation study conducts for single line or both (i.e. Present Single line + future line) Please confirm whether Power simulation will be conducted for single line only OR it will be considered for Present Single line + future line. Similarly, scope for 25kV feeder lines including bypass/ paralleling arrangement & associated equipment should be defined in CP304 bid document which will be limited for single line only for the purpose of clarity. Currently SLD show bypass / paralleling arrangement between up track and down track and down main feeder is shown as dotted (future); however if the design has to be done for only single line, SLD need to be modified to reflect that i.e. paralleling of left and right up line should be shown and bypass / paralleling arrangement between up track and down track should not be there. SLD & specification is not clear on this scope & exclusion (for future provision) in this area. Request you to kindly modify SLD and CP-304 specification document to reflect single line only.	Clause 5.2.2 (3) indicates “UP & DN Direction” not “UP & DN line”. However, please refer amendment No.10 SN 102 along with attachment to addendum 10.
780.	PS Vol2 Electrification 3.3.1 (1)(v) d Auto-Transformers shall be provided at the TSS (as required as per design), SP, SSP and ATS if any.	If bidder design is with V-Connected Traction transformer scheme and simulation shows that Auto transformer requirement is not required in Traction Substation, then this line item will not be required. Please confirm that this understanding of “as required” is correct.	The provisions of the Bidding document are self explanatory and shall prevail.
781.	PS Vol2 Electrification 6.1.3 (4.q) Auto Transformers (as required by design); stand by auto transformer is to be provided which can be connected to either side of the neutral section in case of failure of the existing auto Transformer	If Power Simulation study shows no requirement of Auto Transformer at TSS, then this clause is not applicable for TSS. Please confirm our understanding of “as required” is correct. However, If Bidder has to provide the auto transformer as per power simulation study results, Please indicate scope & scheme in SLD as specification ask for single line only and future line shown in dotted in SLD. Hence, equipment to be supplied in CP304 and equipment for future lines/ bays may be clearly shown in the SLD as detailed in our clarification against clause No. Clause 5.2.2, Table 5.2.2.	The provisions of the Bidding document are self explanatory and shall prevail.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
782.	PS Vol2 Electrification 6.5: Short Circuit Capacity Table 6.5.1 Design short circuit levels for 132kV-10000MVA for 1 se and 220kV – 20000MVA for 1 sec.	Based on MVA levels provided, Calculated fault level for 220kV is 52.48kA & 132 kV is 43.74 kA. IEC-62271-1 recommended 40kA & 50kA for 220kV equipment & 31.5kA & 40kA for 132kV Equipment as per clause No. 4.5 (R10 series) Please amend the short circuit levels of: - 220kV equipment's as 40 kA (i.e. 15242 MVA) or 50kA (19052MVA) to align with IEC 132kV equipment's as 31.5 kA (i.e. 7201MVA) or 40kA (i.e. 9145MVA) to align with IEC and the same was adopted in CP-104 So that bidders ensure equipment availability as per IEC.	Please refer addendum no. 14 SN- 120.
783.	PS Vol2 Electrification, Chapter-6, Clause no. 6.1.4 (1) : SSP & Clause no. 6.1.5(1) : SP Double pole circuit breakers for 2x25kV AT system with protection relays as required to automatically isolate faulty section/equipment, control relay panel and CT's, PT's as per application duty of Max. 60kV or Max. 30kV rated voltage, and suitable BIL in conformance to EN 50124-1.	Since the System is designed for 2 X 25 KV, the standard rated nominal voltage (Un) of 25 KV & rated insulated voltage (Unm) of 27.5kV is acceptable and available. Beside that there is no Un or Umn of 30 KV specified in EN 50124-1. Important consideration should be BIL of System voltage and 95kVrms & 250kVp is a standard BIL as per international practice. Thus request you to kindly amend your clause to "control relay panel and CT's, PT's as per application duty of Max. 55kV or Max. 27.5kV rated voltage" which is aligned with EN Standard and International Practices.	Please refer addendum no. 14 SN- 132 & 133.
784.	1. PS- Schematic Jagadhari TSS (Drg. No. GC/DFCC/PS/TSS/SCH/TYP/101-Jagadhari)	Please confirm that the bidder / contractor has to ONLY provide space for 132kV IR Transmission line to Sahnewal circuit 1 & 2 (referred as "in Future" in SLD) bay only and no equipment is in bidder / contractor scope for this. Bidder's scope is to provide switchgear and gantry only for 132kV IR Transmission line to Meerut circuit 1 & 2. Please confirm our understanding.	Bidder's understanding is correct. Please refer addendum no. 14 SN-131 with attached "Schematic Diagram of 220/132 kV RSS Cum 132/55 kV TSS at Jagadhari".
785.	1. PS- Schematic Jagadhari TSS (Drg. No. GC/DFCC/PS/TSS/SCH/TYP/101-Jagadhari)	SLD indicates electrification works for single line only and other line for future provision. However, clause 5.2.2(3) indicates Single & Double consists train. Scope for 25kV feeder lines including bypass/ paralleling arrangement & associated equipment should be defined in CP304 bid document which will be limited for single line only for the purpose of clarity. Currently SLD show bypass / paralleling	Refer Addendum no. 14, SN-131 with attached "Schematic Diagram of 220/132 kV RSS Cum 132/55 kV TSS at Jagadhari".

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
		arrangement between up track and down track and down main feeder is shown as dotted (future); however if the design has to be done for only single line, SLD need to be modified to reflect that i.e. paralleling of left and right upline should be shown and bypass / paralling arrangement between up track and down track should not be there. SLD & specification is not clear on this scope & exclusion (for future provision) in this area. Request you to kindly modify SLD and CP-304 specification document to reflect single line only.	
786.	PS Vol2 Electrification, Chapter-3, clause no. 3.2.4 (6)Page 454 Voltage imbalance and THD imposed at PCC with power supply authorities at normal rated capacity as well as extended feed scenario in full load conditions	Please advise relevant Power Supply Authority for the same and specify the document / regulation to be considered to deciding PCC to avoid any issue at a later date. If the Point of Common Coupling (PCC) is known at this stage, please advise if the same is Grid Substation end or TSS end. Please confirm the existing short circuit level of feeding grid substation and approximate distance between grid substation and TSS which is one of the important factors for Power Quality Study. Technically Power Quality cannot be ensured without this information and thus required. If data is not available at this stage, data to be assumed / considered should be specified by the employer based on the available information.	PCC will be at TSS end. Please refer table 18.4.4 Vol-2, Part-2 of the Bidding document.
787.	PS Vol 2 Electrification; Chapter 6, clause no. 6.7.1 page 492 For connectivity to the grid substation of power supply authorities, following power quality limits have been laid at the point of common coupling (PCC)	Please advise relevant Power Supply Authority for the same and specify the document / regulation to be considered to deciding PCC to avoid any issue at a later date. If the Point of Common Coupling (PCC) is known at this stage, please advise if the same is Grid Substation end or TSS end. Please confirm the existing short circuit level of feeding grid substation and approximate distance between grid substation and TSS which is one of the important factors for Power Quality Study. Technically Power Quality cannot be ensured without this information and thus required. If data is not available at this stage, data to be assumed / considered should be specified by the employer based on the available information.	Please refer Query No. 786.
788.	PS Vol2 Electrification, Chapter 6, clause no. 6.9.8 (a) Page 494	Distance Protection is missing in the list of 220kV incoming feeder protections. We understand that it is a standard practice of PGCIL to use Distance Protection for Line Feeder. If the same practice has to	Distance Protection of 220 kV incoming feeder is not in the scope of the

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	220kV Incoming feeder from grid substation of PGCIL or Power Supply Authority to TSS	be followed for TSS, Distance Protection may be required. Please confirm that Distance protection needs to be provided by bidder / contractor. Also confirm that the exact practices followed by PGCIL for the same to be followed for this contract.	bidder.
789.	PS Vol2 Electrification, chapter-6, clause no. 6.1.3 (4) (C) Metering Bays with Check meters, Metering CT, PT and the associated insulation, protection and monitoring arrangement as per utility's specification with required communication ports on the 220kV incoming side in a separate cubicle at each TSS which should have communication with OCC through SCADA	Please clarify that main metering and associated CT, PT, LA for incoming lines and main metering room at TSS are excluded from Present scope of work since the same is not mentioned in the scope	The provisions of the Bidding document are self explanatory and shall prevail. However, please refer addendum No 10 SN-101.
790.	PS Elec Vol2, chapter 4, Clause 4.4.2 (5.a) Three years satisfactory performance on AC Traction system from one month prior to date of second stage of bid opening or later. (For circuit breaker and interrupters above 25kV, 25kV feeder wire, AEW, BEC and SCADA system, Three (3) years satisfactory performance on Power utilities shall also be permitted.)	Request you to kindly change the clause to: "Three years satisfactory performance on AC Traction system from one month prior to date of second stage of bid opening or later. (For circuit breaker and interrupters above 25kV, 132kV & 220kV Current Transformer (CT), 132kV & 220kV Power Transformer (PT), 132kV & 220kV Disconnector, 25kV feeder wire, AEW, BEC and SCADA system, Three (3) years satisfactory performance on Power utilities shall also be permitted)" This will enable execution and delivery of the Project in time without impacting the quality, performance or functionality of the system.	The provisions of Bidding document shall prevail. However Addendum No. 14 SN-118 may also be seen.
791.	PS Vol2 Electrification, chapter -6, clause no 6.9.8 (a) & (b) & SLD of Jagadhari (Drg. No. GC/DFCC/PS/TSS/SCH/TYP/101-Jagadhari) 220kV Incoming feeder from grid substation of PGCIL or power supply authority to TSS: Under voltage, Over current, Special Bus differential protection & Busbar protection.	Protection scheme requirement between Technical specification & SLD (Jagadhari) are contradicting. In SLD, no Circuit Breaker (CB) & Current Transformer (CT) is shown in 220kV incoming line & 220kV bus coupler bay and no CT shown in 132kV Bus coupler bay. hence, no protection is feasible at incoming line & Bus coupler bay whereas technical specification asks for specific protection as mentioned in clause no. 6.9.8(1) & (2) Please revise the protection requirements in clause No. 6.9.8(1) &	SLD is indicative. Please refer addendum no. 14 SN-131 with attached "Schematic Diagram of 220/132 kV RSS Cum 132/55 kV TSS at Jagadhari".

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
		(2) OR revise the SLD (Jagadhari) 220kV & 132kV side indicating Circuit Breaker (CB) & Current Transformer (CT) at appropriate location of SLD as per actual requirement.	
792.	PS Vol2 Electrification chapter -6, clause no 6.9.8 (a) & (b) & SLD of New Sirhind (Drg. No. GC/DFCC/PS/TSS/SCH/TYP/101-New Sirhind) 220kV Incoming feeder from grid substation of PGCIL or power supply authority to TSS : Under voltage, Over current, Special Bus differential protection & Busbar protection.	Protection scheme requirement between Technical specification & SLD (New Sirhind) are contradicting. In SLD, no Circuit Breaker (CB) shown in incoming line & no Current Transformer (CT) is shown in bus coupler bay, hence, no protection is feasible at incoming line & Bus coupler bay whereas technical specification asks for specific protection as mentioned in clause no. 6.9.8(1) & (2) Please revise the protection requirements in clause no. 6.9.8(1) & (2) OR revise the SLD (New Sirhind) indicating Circuit Breaker (CB) & Current Transformer (CT) at appropriate location of SLD as per actual requirement.	Please refer Addendum no. 10 SN-102 with attached "Schematic Diagram of 220/55 kV Traction substation with one transformer Scott connected and earmarked for future extension" and "Schematic Diagram of 220/55 kV TSS with two transformers Scott connected".
793.	PS Vol2 Electrification Chapter -6, clause no.6.9.8 (d) 220kV & 132kV Outgoing feeder protection (Jagadhari) Restricted Earth Fault & Line Differential Protection	Restricted Earth Fault is only applicable for Transformer and not applicable for outgoing line feeder. Similarly, Line differential protection may not be feasible for longer line length as it needs control cabling between sending & receiving end. Please confirm that DFCC has a right of way for laying control cable for the same and the control cable is not in the scope of bidder / contractor if line differential is considered. Thus request Employer to change differential protection with distance protection in technical specifications as that is the appropriate and feasible option.	Please refer addendum No. 10, SN-91.
794.	PS Vol2 Electrification, Chapter 18: Interface: Table 18.4.1 (7) <u>System Works Contractor (CP304)</u> Shall coordinate with the civil contractor so that the BEC is installed while the formation work is in progress by the civil contractor and formation is not required to be excavated for laying of BEC	By the time CP 304 contractor mobilised for execution of E&B works, Most of the alignment will be constructed already. In that case, it is not possible for successful bidder to install BEC without excavation and the employer / DFCCIL has to provide hindrance free access as per Employer's obligations or an alternate arrangement which doesn't require any excavation should be accepted. Please incorporate these changes in the clause.	The provisions of Bidding document shall prevail.
795.	Tender drawing: Typical arrangement on OHE Mast on Embankment (Drg. No. GC/DFCC/OHE/EMBKT/TYP/501-1)	As per tender drawing "Typical arrangement on OHE Mast on Embankment", CP304 contractor has to provide earth riser for connection to every mast. BEC laid between track & Mast with 600	The provisions of Bidding document shall prevail.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
		mm below earth on embankment and have to excavate at every mast location on the embankment for taking out the riser. In this scenario, methodology of compaction on embankment for that portion (i.e. manually or mechanised) to be ensured and DFCCIL/ Civil Package contractor must provide hindrance free access of embankment for timely completion of this task. If this is not feasible if Civil contractor has already completed their work, alternate proposal must be considered. Please incorporate appropriate changes in the clause.	
796.	PS Vol2 Electrification, Chapter-7, Table 7.4.1 ….In case, the contractor proposes any other connection type transformer arrangement meeting performance requirement, the specification for such proposed transformer shall be prepared by the contractor on the lines of specification of scott connected transformer matching/ exceeding performance parameter creation without any limitation during the service life on the life cycle cost basis and submitted for approval of the engineer, whose decision shall be final and binding to the contractor.	Since this is a Design and Built Contract, everyone should be entitled to offer their own design as long as Employer Requirements and Specifications are met. It is not appropriate to compare one design with another as every design has its own pros and cons. Beside this, we would like to state that the clause itself is discriminatory in nature as it has been mentioned that bidders considering connections other than Scott will have to prove that their design is matching or exceeding performance than Scott, however bidders offering Scott connection is not required to prove that their design is matching or exceeding other connections, thus giving unfair advantage to bidders considering Scott. Thus we request you to delete this condition to provide level playing field as long as Employer requirements are met.	The provisions of the Bidding document are self-explanatory and shall prevail.
797.	Part-1, Page 52 of 1309, Section III Evaluation and Qualification Criteria; 2.4 ** (A Bidder shall also be required to submit a certificate, from the developer / vendor of the software, that the simulation..….	Since generally Simulation Software Developer / Vendor sell their software to Engineering companies for them to use and they have no control over the Projects it is being used, it is not possible to get a certificate from Developer / Vendor.	The provisions of Bidding document shall prevail.
798.	Vol-5 Particular Specifications E&M and Associated Works, Attachment 20.7: Indicative Scheme for Auxiliary Power Supply Scheme System	Bidders understanding of indicative Scheme for Auxiliary Power Supply Scheme system is as follows: 1. Only Single HT incomer would be available with One HT Incomer Breaker. No Outgoing HT breaker is required. 2. No AT from DN/UP track for critical load shown in the drawing 3. Street lighting up to how much KM approach road to be considered? 4. One No. ONAN transformer to be considered as per Scheme.	The provisions of the Bidding document are self explanatory and shall prevail. Regarding point no. 5, System Contractor has to design the power supply

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
		5. Is separate transformer for individual building to be considered In case location of IMD, IMSD, staff quarters & Guest house are far away from station?? Kindly confirm.	and distributed scheme.
799.	Crossing Station Building Plan Drg. No. - GC/DFCC/CS/201/REV.1 Junction Station Building Plan Drg. No. - GC/DFCC/CS/101/REV.1	Location of Auxiliary Substation is not marked on the station building plan. Kindly confirm the transformer Location.	Being a design & build contract, Bidder will propose location of Auxiliary sub station after survey and interface with civil contractor to Engineer.
800.	Vol-5 Particular Specifications E&M and Associated Works, Chapter-4, clause no. 4.6 S.no. (5) (5)Guest House It is proposed to construct One (1) number Guest House by the CST contractor (CP-301) at Ambala / Chandigarh. Civil work of Guest house (not less than 500 m2 plinth area) is carried out by CST Contractor including concealed conduits in Contract Package CP 301. However electrical works in these buildings are included in present scope of work under Contract Package CP 304.	1. Request DFCC to provide the Guest house Building layout Plan along with chainage details. 2. As per the Attachment 20.7 Indicative scheme for Auxiliary Power Supply system, there is no indication of outgoing feeder for Guest House. Request DFCC to clarify whether the Supply to Guest House is to be Fed by ASS or Separate Power Transformer to be considered.	Being a design & build contract, the system contractor will interface with civil contractor. The scheme is indicative only. The contractor will design the power supply scheme in detail and propose to Engineer.
801.	Vol-5 Particular Specifications E&M and Associated Works, Drawing No. GC/DFCC/QRTS/701/Rev1, GC/DFCC/QRTS/702, GC/DFCC/QRTS/703 GC/DFCC/QRTS/701/Rev1 – Type-A Quarter GC/DFCC/QRTS/702- Type-B Quarter GC/DFCC/QRTS/703- Type-C Quarter	Request DFCC to clarify the numbers of Quarter at each location and its chainages.	Please refer clause 1.3.1 (5) of Volume 1, General Specification. For location of quarters and chainages, the system contractor will interface with the civil contractor.
802.	Clause 8.16, PS Part II, Vol II The zinc coating for steel structures and parts shall be as per RDSO Specification no. ETI/OHE/13 (4/84) i.e. minimum coating of zinc shall be 610 gm /	This Clause shall be applicable for only steel structures and small parts of steel attachments on mast and not for OHE components. For OHE components, the Galvanisation for OHE components shall be in accordance with RDSO Specification ETI/OHE/13 or European Standard EN ISO 1461 where	Please refer response at Query No. 767.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	m², except for marine and chemically polluted areas. The polluted areas shall be identified as a result of pollution mapping by the contractor and approved by the Engineer, where the zinc coating shall be 1000 gm/ m2. In case of need to use nonstandard SPS at special locations to be fixed to the steel structure, these shall be with clamps to avoid drilling of galvanized mast sections	galvanisation zinc coating of lesser mass is allowed depending upon the thickness.	
803.	Part 4	Request DFCC to provide CAD version of all alignment and schematic drawings.	Request not accepted.
804.	Clause 8.14.4 -2 PS Part II Vol II Setting distance of fixed structures shall not be less than that specified in SSOD for EDFC. This shall be however, subject to review by the Engineer. The location of traction masts shall be such that visibility of signals is not obstructed and shall be as indicated in ACTM. The OHE supporting masts/portals/drop arms shall be coordinated with signal locations to ensure clear signal visibility.	Can we design all the OHE masts (single cantilever/multiple cantilever/Portals/ TTC/ Structures) with a standard implantation of 3.00m as the SSOD of EDFC permits 2.825m implantation for structures. However, the implantation of structures in the visibility of signals will be designed such that the visibility of signals not obstructed and will be according to ACTM.	Being a Design build contract, the detailed design shall be proposed by the Contractor and approved by the Engineer at design stage after award of contract.
805.	Part 4 Yard plans	Kindly share the detailed OCS layout plan & drawings at IR merging locations.	This is the interfacing requirements with Indian Railways. Please refer table 18.4.3 Vol-2, Part-2 of the Bidding document.
806.	Part 4	Please provide the details of ROB, FOB, transmission lines and cross feeders of Indian railways with spanning over DFC line and angle of crossing, height etc. to estimate design work effectively.	Being a design & build contract, the system contractor will interface with civil contractor and should survey the section.
807.	Clause 8.14.1 PS Part II Vol II Overhead equipment structures for the main line tracks shall be mechanically and electrically	Can we use masts in between tracks in yard between mainline and loop line if the track centre is adequate to install mast with an offset of 2.825+curve allowance if any, as per standard schedule of dimensions for EDFC an implantation of 2.825m is allowed for	Being a Design build contract, the detailed design shall be proposed by the Contractor and

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(1)	(2)	(3)	(4)
	independent except where specifically approved by the Engineer. In station yards, having three or more tracks, generally, portals shall be erected as per yard plan. …	individual structures without anchor or twin cantilever structures.	approved by the Engineer at design stage after award of contract.
808.	Clause 8.18.1 d PS Part II Vol II Porcelain insulators as per RDSO specification No. TI/SPC/(OHE)/INS/0070 shall be provided at all locations except at polluted locations and LC Gates where insulators as per RDSO Specification TI/SPC/OHE/INSCOM/0070(04/07) shall be used. The locations where polluted zone type of insulators is to be installed shall be proposed after survey and shall be installed with the approval of Engineer.	Can we install composite insulators as per RDSO specification TI/SPC/OHE/INSCOM/0070 (O4/07) or as per any other International standards with Aluminium tube cantilevers as the Porcelain insulators will not be suitable for aluminium cantilevers.	Please refer response at Query No. 771.
809.	Part 2, Section VI, Volume 2 PS 10.2.1 (1) Remote monitoring and control of 220/132 KV TSS and IR arrangement	Kindly confirm that the Indian railways will provide necessary Signal/Instrumentation cable to monitor the IR arrangement.	IR arrangement in sub clause 10.2.1 (1) refers to outgoing feeder arrangement.
810.	Part 2, Section VI, Volume 2 PS 10.2 (14) Operator work station at OCC for Sahnewal – Pilkhani section	Request DFCC to confirm the number of workstations required in OCC.	No. of workstation required shall be 2 no. for entire Sahnewal-Pilkhani-Khurja section.
811.	Part 2, Section VI, Volume 2 PS 10.3.1 (a) Adequate redundancy in system such that any single point failure shall not degrade the system availability or performance of SCADA system in any way; the second level of failure shall be able to meet with crisscross redundancies.	Adequate redundancy is being provided as per clause 10.11 (10) for RTU and as per clause 10.2 (15) , (16), (17), (19) for OCC equipment. However we understand that there is no redundancy requirements for I/O cards. Kindly Confirm our understanding.	Please refer response at Query no. 741.
812.	Part 2, Section VI, Volume 2 PS 10.7.10 In 10.7.10 The SCADA system at OCC shall support data acquisition from RTU or the other IED over Ethernet based IEC 60870-5-104 In 10.9.2 (b) The Traction substation shall be	Bidder understands that the IEC 61850 protocols will be used for acquisition of data from the IED to the RTU. Please confirm our understanding. Further we request DFCC to allow use of only one protocol instead of both (i.e. Bay controller units (BCU) or Intelligent Electronic Device (IED). And update the clause accordingly.	The provisions of the Bidding document are self explanatory and shall prevail.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	provided with RTU capable of communicating with Bay controller units (BCU) or Intelligent Electronic Device (IED) over IEC61850 protocols.		
813.	Part 2 volume 2 PS clause no 10.7.4 The SCADA system shall be able to initiate a change of state at the output of an RTU within <1 second of initiation by the control room operator. If this change has not occurred in the field for any reason, the operator shall be notified that the command was unsuccessful. The Contractor shall demonstrate the past performance of similar system provided elsewhere by them with client's Certificate while proposing for implementation on DFCC as per the Scope of work.	As per our experience we understand that for Railway applications, change of state of output of an RTU at 3 seconds shall be acceptable. The same is also followed in earlier EDFC packages like APL 1 & APL 2. Request DFCC to amend the requirement.	Please refer Query response at SN-744.
814.	Part 2 Vol 2 Clause no 10.7.10 The SCADA system at OCC shall support data acquisition from RTU or other IED over Ethernet based IEC 60870-5-104.	Request DFCC to also allow OPC UA communication in addition to IEC 60870-5-104 for SCADA communication purpose. Thus we request DFCC to amend the clause as follow" The SCADA system at OCC shall support data acquisition from RTU or other IED over Ethernet based IEC 60870-5-104/ OPC UA. The above requirement is in line with other EDFC projects.	The provisions of Bidding document shall prevail.
815.	Part-2, Vol-3 Yard Plans for Crossing & Junction Stations.	1. In the Yard Plan for Sarai Banjara marking for New work is not visible. Request DFCCIL to provide the yard plan duly marking the new works. 2. In Sarai Banjara Yard plan, there is no isolation provided for connection to IR line. Request to issue the revised yard plans as part of bid reference & input documents for us to enable technical proposal.	Please collect clear copies from DFCCIL office.
816.	PART-2, SECTION-VI, VOLUME – 3, 2.2.6(1) (c) For the 32 LC gates to be interlocked, Gate Huts including Signalling Equipment Room and Signalling Power Supply Equipment Room for IR are being constructed under Contract Package 301. However	If the LC gate is going to be controlled by IR gateman clarify the need for separate gate huts for IR lines and the DFC Lines	Provisions of Bidding Document are sufficiently clear. LC gate will be controlled by IR gateman from Gate Hut. No separate Gate

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	Construction of Signalling Equipment Room and Signalling Power Supply Equipment Room at all LC gates for DFC lines are in the scope of this contract. The IR gateman will operate the LC gates from the new gate lodges as per 'Working methodology for LC gates' at Appendix 1.		Hut is required. However for DFC line, separate SER shall be required as per bid document.
817.	PART-2, SECTION-VI, VOLUME – 3, 2.2.6(1) (d) The lifting barrier shall work on 110V AC, 50Hz single phase supply.The 110V power supply shall be extended from IPS located in LC Gate Equipment Room. The Power supply for Gate signals of both IR and DFC shall be extended from different IPS modules so as to avoid any interference. Main supply shall be taken from ATs of DFCC and IR.	Wherever there is single set of booms (ELB) to cover both IR track & DFCCIL track, request DFCCIL to confirm that the power to operate the ELB will be provided from the existing IR equipment room.	IPS for operating ELB at Gate Hut (SER) is in the scope of present contract as per bid document. Separate IPS provision to be made for SER for DFC line as per bid document.
818.	PART-2, SECTION-VI, VOLUME – 3, 2.2.6(1) (d) Main supply shall be taken from ATs of DFCC and IR.	The power supply for the IR Signaling equipment room will be taken from IR AT by IR. Please confirm if the understanding is correct. The power for DFCCIL signalling equipment room will be taken from DFCCIL AT by CP304 contractor.	Yes, the bidders understanding is correct.
819.	PART-2, SECTION-VI, VOLUME – 3, 2.2.6(1) (e) Single set of electrically operated common lifting barriers shall be provided outside the Indian Railways and DFCCIL tracks so as to protect both IR as well as DFCCIL tracks by one set of lifting barriers. In case the distance between IR and DFCCIL tracks is such that a single set of barriers is considered unsafe or operationally unmanageable, the provision of two separate set of barriers may become necessary. Such provision of two sets will also be deemed to be part of the work and shall not attract any extra payment. Decision of providing two separate set of barriers, shall be taken by the Engineer on the basis of local conditions.	Please confirm for what distance separate boom to be considered for DFC and IR lines. The power for operating the IR side ELB shall be provided from the IR equipment room & the power for operating the DFCCIL side ELB shall be from the DFCCIL equipment room. Please confirm our understanding.	Refer clause 7.2 of ITB Part–I sec.1. Reference document under Part -4.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
820.	PART-2, SECTION-VI, VOLUME – 3, 2.2.7(1) (a) On the EDFC system, modern turnouts and derailing switches are programmed to be used. The turnouts shall be on 60 Kg rail, with thick web switches and weldable CMS crossings suitable for 25 tonne axle load and Speed potential of 100 Kmph on Main lines	Please confirm type of turnout to be used in EDFC line. Is it to be operated with single or double point machine which depends on length of stock rail? Please confirm scope of supply of back drive arrangement if required. Drawings of the turnouts may please be provided as part of the bid reference documents.	Being a Design build contract, the design shall be proposed by the Contractor and approved by the Engineer at design stage after award of contract. Regarding drawings and type of the turnouts, the bidder may contact DFCCIL Ambala unit.
821.	PART-2, SECTION-VI, VOLUME – 3, 2.3.2(4) (h) The system shall detect and resolve the following conflict situation: Same platform use, same route use, incompatible routes use, and same section use between two stations.no	TMS Does not have the signalling controls, automatic conflict resolution is not possible. It shall only provide a suggestion to the operator & conflicts will be managed through EI. Request DFCCIL amend the clause suitably.	Provisions of Bidding Document shall prevail.
822.	PART-2, SECTION-VI, VOLUME – 3, 2.3.2(5) (p) The user should be able to acknowledge, delete and retrieve alarms.	Alarm can be hidden from the HMI display and not deleted from TMS Database. Request DFCCIL to amend the clause	Provisions of Bidding Document shall prevail.
823.	PART-2, SECTION-VI, VOLUME – 4, Clause 8.4.6.2 The system shall be designed in such a manner that the GSM-R of WDFC can be used in case GSM-R system of EDFC is unavailable so as to ensure uninterrupted communication throughout Eastern and Western corridors of DFCCIL. To achieve this, the IN provided under this contract shall be configured in mated pair/ Geo-redundant configuration with IN of WDFC. For that the contractor shall work in close coordination with contractor of STP-5.	We understand that GSM-R/GSM-R system referred in this clause means “NSS”. Kindly confirm.	Yes, the bidders understanding is correct.
824.	PART-2, Section VI Vol-3 2.2.6(1)(i) Another warning buzzer shall also sound when the	In response to queries released by DFCCIL vide “ RESPONSES TO PRE-BID QUERIES OF THE BIDDERS” at Sr. no. 261 pertaining to	The logic for LC gate operation and control is

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	train reaches a suitable Distance (approximately 4 km in rear of the gate) (approach locking track section) on DFCCIL lines as per approved GWR by IR. At this stage, if the gate is in closed position, track locking of the booms shall take place so that the booms cannot be opened thereafter till the passage of the train from the level-crossing. The route will get automatically released with the passage of train past the nominated track sections ahead of the gate signal. The gateman will then be free to open the gate.	this clause, DFCCIL has clarified "Electronic Interlocking System shall be used at LC Gates" This requirement can be accomplished without necessitating the use of an Electronic Interlocking system. The bidder shall choose an alternate solution that fully meets the technical requirements as given in the clause as it does not warrant any other additional infrastructure requirements like bigger equipment rooms, the need for air-conditioning etc & is also easier to maintain and is a normal practice. The Bidder requests that an addendum be issued to replace the response suitably to clarify the non-requirement of EI for LC Gates.	included in bid document and being a Design build contract, the design shall be proposed by the contractor and approved by the Engineer at design stage after award of contract. Electronic interlocking is not compulsory for LC gate operation and control.
825.	Section IV – Bidding Forms/ Page No 134-190/1309 Price schedule 2.1.1, 2.1.8, 2.1.9, 2.2.5, 2.2.6, 2.2.7, 2.2.8, 2.3.1, 2.3.4, 2.3.8, 2.3.9, 2.3.10 Payment will be made on completion of each payment stage as per weightage (s) given in this schedule.	Price schedule 2.1.1, 2.1.8, 2.1.9, 2.2.5, 2.2.6, 2.2.7, 2.2.8, 2.3.1, 2.3.4, 2.3.8, 2.3.9, 2.3.10 Bidder suggests revising the condition to Payment will be made on Pro Rate completion of each Payment stage as per weightage (s) given in the schedule.	Request not accepted. Provision of Bidding Document shall prevail.
826.	Section IV – Bidding Forms/ Page No 149-151/1309 Price Schedule 2.1.7 Payment Procedure: Review and acceptance of Installation Test Report by the Engineer.	Price Schedule 2.1.7 Bidder suggests revising the payment procedure with separate line item for Supply and Installation scope.	Request not accepted. Provision of Bidding Document shall prevail.
827.	Section IV – Bidding Forms/ Page No 134-190/1309 Price Schedule 2.1.1, 2.1.9, 2.2.1, 2.2.7, 2.2.8, 2.3.1, 2.3.7, 2.3.10 Payment Note : Adjustment to contract price pursuant to GCC 13.8 shall NOT be applicable to the payments of works executed under this Cost Centre/Price Schedule.	Price Schedule 2.1.1, 2.1.9, 2.2.1, 2.2.7, 2.2.8, 2.3.1, 2.3.7, 2.3.10 Bidder suggestion to revise the payment note Adjustment to contract price pursuant to GCC 13.8 shall be applicable to the payments of works executed under this Cost Centre/Price Schedule. Above price schedule activities requires labour and services.	Request not accepted. Provision of Bidding Document shall prevail.
828.	Particular Conditions – Appendix to Tender Annexure – I Page No 1294/1309 Indices procured from Employer's Country Cement & Lime : 1309030000 Steel (Long) : 1310010200	Based on Government of India Ministry of Commence and Industry, Press Release dated May 12, 2017 Revision of Base Year of All India Wholesale Price Index (WPI) from 2004-05 to 2011-12. Tender document specified codes not available in the latest released codes. Bidder suggests to revise the indices codes based on latest code released.	The new WPI (2011-12) is under review. The applicable codes once determined will be issued to the bidders through Addendum at appropriate

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	Electrical Accessories : 1311080000 Electrical Machinery : 1311070000 Communication Equipment : 1311120000		stage.
829.	Section IV – Bidding Forms/ Page No 140/1309 Price Schedule 2.1.3, sub cost centre 2.1.3.3 Supply of Auto Transformer and 25KV/240V Aux Transformers as required at both the TSSs.	Bidder feels that Supply of Auto Transformer may not require in case of V Solution. Please confirm whether payment can be received against the respective weightage.	Refer Addendum No. 14 SN-109.
830.	Section IV – Bidding Forms/ Page No 145/1309 Price Schedule 2.1.5, sub cost centre 2.1.5.7 Payment procedure specified as Review and acceptance of system acceptance test report by the engineer".	Price Schedule 2.1.5, sub cost centre 2.1.5.7 Bidder suggest to revise the Payment procedure payment to be made based on Installation & Test Report	Request not accepted. Provision of Bidding Document shall prevail.
831.	Section IV – Bidding Forms/ Page No 153/1309 Price Schedule 2.1.9 sub cost centre 2.1.9.2 Payment procedure specified as "issue of taking over certificate by the engineer".	Price Schedule 2.1.9 sub cost centre 2.1.9.2 Bidder suggest to revise the Payment procedure based on Readiness and commercial use of the system.	Request not accepted. Provision of Bidding Document shall prevail.
832.	Section IV – Bidding Forms/ Page No 156/1309 Price Schedule 2.2.2 sub cost centre 2.2.2.8 Payment procedure not provided in the documents.	Price Schedule 2.2.2 sub cost centre 2.2.2.8 Bidder suggest to include the Payment procedure based on supply of material.	Provision of payment based on supply of material already exists. Provision of Bidding Document shall prevail.
833.	Section IV – Bidding Forms/ Page No 156-159/1309 Price Schedule 2.2.3 sub cost centre 2.2.3.12 Supply and installation of Earthing, Surge Lighning protection equipment etc. Price Schedule 2.2.2 sub cost centre 2.2.2.12 Supply and installation of Earthing, Surge Lightning protection equipment etc.	Price Schedule 2.2.3 sub cost centre 2.2.3.12 Price Schedule 2.2.2 sub cost centre 2.2.2.12 Bidder suggest to revise the payment procedure based on supply & Installation separately.	Request not accepted. Provision of Bidding Document shall prevail.
834.	Section IV – Bidding Forms/ Page No 161/1309 Price Schedule 2.2.4 sub cost centre 2.2.4.9 Payment Procedure: Acceptance of civil work by the engineer and issue of completion certificate.	Price Schedule 2.2.4 sub cost centre 2.2.4.9 Bidder suggest to revise the payment procedure based on civil progress in stages.	Request not accepted. Provision of Bidding Document shall prevail.
835.	Section IV – Bidding Forms/ Page No 162/1309	Price Schedule 2.2.5 sub cost centre 2.2.5.13, 2.2.5.14, 2.2.5.15, 2.2.5.16	Request not accepted. Provision of Bidding

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	Price Schedule 2.2.5 sub cost centre 2.2.5.13, 2.2.5.14, 2.2.5.15, 2.2.5.16 Supply and installation of Earthing, Surge and Lightning Protection Equipments etc.	Bidder suggests to revise the payment procedure Supply and installation scope in price schedule separately	Document shall prevail.
836.	Section IV – Bidding Forms/ Page No 165/1309 Price Schedule 2.2.7 sub cost centre 2.2.7.2 Payment procedure specified in tender document as issue of taking over certificate by the engineer.	Price Schedule 2.2.7 sub cost centre 2.2.7.2 Bidder suggests to revise the Payment procedure based on Readiness and commercial use of the system.	Request not accepted. Provision of Bidding Document shall prevail.
837.	Section IV – Bidding Forms/ Page No 167/1309 Price Schedule 2.3.7 sub cost centre 2.3.7.2 Payment procedure specified in tender document as issue of taking over certificate by the engineer.	Price Schedule 2.3.7 sub cost centre 2.3.7.2 Bidder suggests to revise the Payment procedure based on Readiness and commercial use of the system.	Request not accepted. Provision of Bidding Document shall prevail.
838.	Section IV – Bidding Forms/ Page No 183/1309 Price Schedule 2.3.6 sub cost centre 2.3.6.5 & 2.3.6.6 Integration of this MRTC system with existing Indian Railway MTRC system, WDFC MRRC system etc.	Please clarify whether Bidder can claim the weightage percentage because of delay due to other activity not related to same bidder.	Request not accepted. Provision of Bidding Document shall prevail.
839.	Section IV – Bidding Forms/ Page No 164/1309 Price Schedule Notes section point no 3, Item 2.2.5.14 will be deemed to have been executed after successful integrated testing and commissioning.	Price Schedule Notes section point no 3, Bidder suggest to revise the Item 2.2.5.14 to be replaced with 2.2.5.15 & 2.2.5.16.	Request not accepted. Provision of Bidding Document shall prevail.
840.	Part 2, Section VI, Volume 4, Clause 12.2.2, Page 1071/1309. Provision of suitable Earth Leakage Detector and Alarms shall be made individually at each location (OCC, Stations, Auto Signal Locations, GSM-R Locations, LC Gate Locations, etc.)	Please note that an Earth Leakage detector is connected at the (-48 VDC) output of the SMPS battery charger. For taking -48VDC the positive polarity of the battery charger is earthed with the telecom load. That means an Earth leakage detector will always give false alarm. Even if some of the feeders are not earthed then also it will give this alarm. You are requested to remove this requirement that leads to false alarms generation or amend the clause suitably.	Wherever -48V DC is not being used, earth leakage detector and alarm shall be provided.
841.	Part 2, Section VI, Volume 4, Clause 12.3.7, Page 1072/1309. The flowing data shall apply to 48 V DC Battery Backup System: (1) Input Voltage Range (Single phase): 230 V AC (+10 %, -20%)	As per Clause no 12.3.4 of PS Telecommunication Compliance to specification RDSO/SPN/TL-23/99 VER 4.0 is required. The AC voltage range specified in this specification is 165V – 260VAC, frequency 50 Hz+ /-2Hz (means from 48 Hz – 52 Hz). Please amend the clause accordingly.	For any such conflict in the Bid document, RDSO specifications shall prevail.

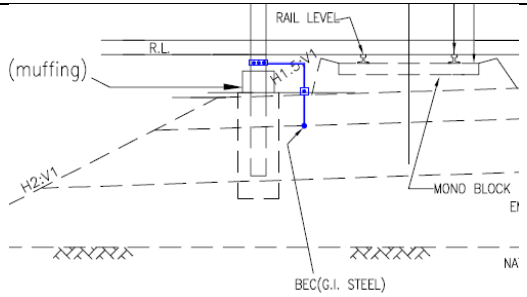
Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	(2) Input frequency: 50 Hz +/- 5% (3) Output current: As required for each location.		
842.	**LOCATION CHAINAGE DRGs of BUILDINGS** CP-304 Vol-5 Particular Specifications E&M and Associated Works, clause no. 3.2.4, 3.2.5, 4.2.2 (1) g) The General requirement for construction of the above Ancillary Building and Control Room under the scope of the Contractor (CP-304) has been described in Chapter 17: Civil Work of this PS. The Contractor after assessing the load and voltage drops for Depots and all other buildings will judiciously decide the location of Auxiliary Power Substations so as to ensure that the Voltage drop at any of the buildings is confined to 3%.	1. For evaluate the Geo Tech Data & E&M Requirements Like Cable < 3% voltage Drop etc., request to provide the Chainage details for Civil & E&M works of Aux SS, TW Shed constructed by Bidder & for E&M works Station, Staff Quarters, Guest House, IMD, IMSD. 2. Without this Information or Master Plan of every Station, it is not possible to evaluate the requirements of the following a) Soil Filling, HFL Level & Soil Bearing Capacity/Earth Resistance b) Need of additional Aux SS Other than Station for IMD/IMSD, Staff Quarters, Guest house c) Location as Chainages and approximate Building distance from nearby Track. d) Typical Drawing of Buildings –Guest House, Station, IMD, IMSD, Staff Quarter. 3. Also provide the Access to every building for E&M works for all 14 Stations in CP-304. <u>This info is provided for CP-105 in recent issued addendum.</u> It is not possible for the bidder to confirm the E&M Cable Size, Run & voltage Drop 3% Limitation, Required for additional Aux SS ***without knowing where the Building will be*** with respect to only known info of Centre Line of Station Building. **Request you to provide the required information please, as the Issue is critical for design purpose.**	Being a design & build contract, the system contractor will interface with civil contractor. The scheme is indicative only.
843.	**MAIN TRACTION TRANSFORMER TYPE OF CONNECTION** CP-304 PS Vol2 Electrification, Chapter-7, Table 7.4.1 …. In case the contractor proposes any other connection type transformer arrangement meeting performance requirement,	Since this is a Design and Built Contract, everyone should be entitled to offer their own design & Transformer connection as long as Employer Requirements and Specifications are met. It is not appropriate to compare one design with another as every design has its own pros and cons <u>without mention of Parameters to be compared</u>. This will lead to ambiguity as there is no tool to measure such conditions of RFP. Beside this, we would like to state that the clause itself is discriminatory in nature as it has been mentioned that bidders considering connections other than Scott will have to prove that their	Please refer response at Query No. 796. Request not accepted. Provisions of Bidding document shall prevail.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	the specifications for such proposed arrangement shall be prepared by the Contractor on the lines of specifications of Scott–connected transformers matching /exceeding performance parameter criterion without any limitation during the service life on life cycle cost basis and submitted for the approval of the Engineer, whose decision shall be final and binding to the Contractor.	design is matching or exceeding performance than Scott, however bidders offering Scott connection is not required to prove that their design is matching or exceeding other connections, thus giving unfair advantage to bidders considering Scott. Internationally both connections are widely used and just some countries Geographical adoption only. Also mentioning the Decision of Engineer is final & Binding to the Contractor, pushes fear to even a better Design & Solution adopted worldwide internationally. Thus we request you to delete this condition to provide level playing field as long as Employer requirements are met.	
844.	**Voltage Unbalance** CP-304 PS Vol2 Electrification, Chapter 3, 3.2.4 (6) 6.7.2 **Voltage imbalance and THD** imposed at Point of Common Coupling (PCC) with power supply authorities at normal rated capacity as well as extended feed scenario in full load conditions and mitigation measures thereof including sizing of mitigation equipment; **Maximum Permissible Voltage Unbalance** The limit of voltage unbalance permitted according to Central Electricity Authority (CEA) standards are as follows: 132kv 3% 220kv 2%	1. Please advise relevant power supply authority for the same and specify the document/regulation to be considered to deciding PCC to avoid any issue during project execution stage. 2. Please advise Point of common coupling (PCC) is at Grid Substation end or TSS end. 3. Please confirm the existing short circuit level of feeding sending substation and approximate distance between sending end substation and TSS & the Type of conductor used for Transmission Line which are one of the important factors for power quality study. 4. Technically **Power Quality cannot be ensured for the RFP conditions without this Data/information** and thus required to be defined. 5. If data is not available at this stage, data to be assumed/ considered should be specified by the employer based on available information. It is not possible for the bidder to evaluate the Voltage unbalance % at 220kv, 132kv side within % Limitation for the costing in the absence of the above mentioned basic information? **Request you to provide the required basic information please, as the Issue is critical for design purpose.**	Please refer response at Query No. 786. Bidders are requested to survey the section and collect the required information. Being a design build contract, the system contractor shall propose to Engineer for approval after interface with supply authority/PGCIL and detailed survey.
845.	**1. AT for TSS**	1. If bidder design is with V-connected Traction Transformer	The provisions of the

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	2. Spare AT of TSS Type CP-304 PS Vol2 Electrification, Chapter 3, 3.3.1. (1) v (d) Auto-transformers shall be provided at each TSS (as required as per design), SP, SSP and ATS if any.	scheme and simulation shows that **<u>Auto Transformer requirement is not required in Traction Substation</u>** then this line item will not be required. 2. Please confirm whether provision of AT in TSS is obligatory as the word "as required as per Design" is not clear and such ambiguity may lead to dispute later. 3. Also confirm the 1 AT Spare requirement of "TSS Type" cannot be determined as Vee connected TSS solution does not envisage any AT and also any future AT provision or space. 4. Please confirm "As required" or "if required" or "as required as per Designs" phrases all represent on applicability of Design requirement only and will not be compelled as Mandatory / Obligatory. If otherwise to be clearly specified, to avoid any ambiguity/mis-interpretation. **Please confirm on all the above points which are critical from design point of view.**	Bidding document are self explanatory and shall prevail.
846.	**Maximum Voltage 60kv/30kv for SSP** CP-304 PS Vol2 Electrification, Chapter 6, clause 6.1.4 (1) Double pole circuit breakers for 2X25 AT system with Protection relays as required to automatically isolate faulty section/ equipment, Control Relay Panel and CTs, PTs as per application duty of Max. 60kV or Max. 30 kV rated voltage, and suitable BIL in conformance to EN50124-1.	Since the System is designed for 2 X 25 KV, the standard rated nominal voltage (Un) of 25 KV & rated insulated voltage (Unm) of 27.5kV is acceptable and available. Beside that <u>there is no Un or Umn of 30 KV specified in EN 50124-1.</u> Important consideration should be BIL of System voltage and 95kVrms & 250kVp is a standard BIL as per international practice. Thus request you to kindly amend your clause to "control relay panel and CT's, PT's as per application duty of Max. 55kV or Max. 27.5kV rated voltage" which is aligned with EN Standard and International Practices and the bid document specifies EN standards. We request you to issue an addendum to avoid any ambiguity.	Please refer response at Query No. 783.
847.	**Non Std Short Circuit Level as MVA instead of Standard 31.5/ 40/ 50kA** CP-304 PS Vol2 Electrification, Chapter 6, clause 6.5 Table 6.5.1 Design short circuit levels for	Based on MVA levels provided, Calculated fault level for 132 kV is 43.74 kA & 220kV is 52.48 which is nonstandard and no such product exist. IEC-62271-1 recommended 31.5kA & 40kA for 132kV & 40kA/50kA for 220kv Equipmentsas per clause No. 4.5 (R10 series) Please amend the short circuit levels of: - 132kV equipment's as 31.5 kA (i.e. 7201MVA) or 40kA (i.e. 9145MVA) to align with IEC and the same was adopted in	Please refer response at Query No. 782.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	132kV – 10000MVA 220kV – 20000MVA	CP-104 - 220kV equipment's as 40 kA or 50kA to align with IEC. So that bidder ensures equipment availability as per IEC. Request you to confirm Fault Current of 31.5/40/50kA for 132/220kv Eqpts. As Short circuit are internationally defined in terms of standard kA level, please issue addendum as above to align this requirement to international standards and overcome this non-standard Data and ambiguity.	
848.	**Use of Power Utility Equipment** CP-304 PS Elec Vol2, chapter 4, Clause 4.4.2 (5.a) Three years satisfactory performance on AC Traction System from one month prior to date of Second stage of Bid Opening or later. (For Circuit Breakers and Interrupters above 25kV, 25kV feeder wire, AEW, BEC and SCADA system, Three (3) years satisfactory performance on power utilities shall also be permitted.)	1. Request you to kindly change /amend the clause to: "*Three years satisfactory performance on AC Traction system from one month prior to date of second stage of bid opening or later.* ***(For 220/132kv-Power Transformer 150MVA, Circuit breaker and interrupters above 25kV & 220, 132kV Current Transformer (CT), & 220, 132kV Potential Transformer (PT), 220/132kV Disconnector, 25kV feeder wire, AEW, BEC and SCADA system and, Three (3) years satisfactory performance on Power utilities shall also be permitted)***" 2. Please note Eqpts above 33kv are generally used in Power Utilities only and will not have Indian Railway AC Traction usage. Even in Indian Railways such eqpts are used in Transmission Division and not in Traction Division. This change will enable smooth execution and delivery of the Project in time without impacting the quality, performance or functionality of the system without impacting reliability or quality of design in any manner. In view of above Standard products which are meeting the RFP & Design requirements may please be accepted. We request you to issue an Addendum while incorporating above suggestion which is critical for design.	Please refer response at Query No. 790.
849.	**Access of Blanket & Track for System Works** CP-304 PS Vol2 Electrification, chapter 18, Table 18.4.1 (7) <u>System Works Contractor (CP304)</u>	1. Please confirm Bidder will can have the access to his Plants & Machineries and Materials on to the Embankment after the designed Thickness is ready (before Laying of Track) for the following works of bidder a) OCS foundation works	Provisions of Bidding document shall prevail.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	Shall coordinate with the Civil contractor so that the BEC is installed while the formation work is in the progress by the Civil Contractor and formation is not required to be excavated for laying of BEC.	b) Mast Erection & Grouting c) Stringing of AEW, Negative Feeder d) BEC (GS Steel Flat/Rod/Conductor) e) S&T Cables Machineries will differ with blanket access and without blanket access. For Catenary, Contact wire Stringing, Post stringing activity Track access is a Must. 2. Else DFCC shall confirm that Finished Blanket cannot be used for works in Sl.no.1 above and only with Track Access to be used for plying Machineries, Materials for the above works. 3. Note that the above information is very important for Sequence planning of the activity and thereby the Costing of Bid also. 4. For example Planning Sequence , Machinery & Costing differs for works as below a) Only Use Track with Rail machineries for System works(1). b) Using Road Machineries on Blanket also, before Laying Track for above System works & Use Track also. c) Cannot use Blankets at all for Plying Road vehicles for System works Request you to kindly provide clear information about above access dates/milestone to enable bidder to plan sequence, access Machinery reqd. & Costing the Bid in a proper manner.	
850.	**BEC Requirement & Laying Sequence** CP-304Tender drawing: Typical arrangement on OHE Mast on Embankment 1. Need of BEC (GS) 2. Location of BEC laying DrgNo. **GC/DFCC/OHE/EMBKT/TYP/501**	1. Please confirm whether requirement of BEC is derived from EMI & E&B Simulation being Design Build Contract (or) BEC requirement is Obligatory. 2. Since CP-302 CST contract may complete the Designed Blanket confirm will the Embankment will be allowed for BEC Laying before Ballast Spreading, Track Laying **(or)** BEC to be laid after Track laying with Rail Machinery. 3. Is the Location of Laying BEC is Fixed as shown in the Drawing (close to track bed) or it can be changed to behind OCS Foundation. 4. Being Design Build Contract, is Bidder permitted to provide alternative Solution to BEC Solution or Laying BEC is Obligatory. Please provide your reply for the above, to evaluate the Planning Sequence & Cost. 5. Request to allow alternatives to BEC Laying proposal.	Drawing is indicative. Being a Design build contract, the design shall be proposed by the Contractor and approved by the Engineer at design stage after award of contract.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
			
851.	**Part-3, Page 1286 of 1309,** **Insurance** CP-304 Sub clause 18.5 Professional Indemnity Insurance Sub-Clause 18.5 Professional Indemnity Insurance Add the following new Sub-Clause :"The Contractor shall obtain the professional indemnity insurance, to cover the **risk of professional negligence in the design of the Works** carried by him, for the amount(s) stated in the Appendix to Tender and **the insurance shall be maintained in full force and effect from the Commencement Date of the Works until 03 (three) years after the expiry of the Defects Notification /Extended Defects Notification Period**. The insurance policy is required to indemnify the Employer as joint insured and the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. The Engineer will not certify any Payment Certificate until the Contractor has provided evidence of this insurance.	Generally in all Railways/Metro projects Contract Period Ends with the expiry of Defect Notification Period (DNP) or 2 years from Taking of the works. So any Contract Condition shall not be beyond the end of DNP Period. In light of above Time period for professional indemnity insurance may please be reduced from "DNP + 03 (three) years " to "Expiry of Defect Notification Period (DNP). We request you to amend the clause accordingly, as per Universal Practice.	Request not accepted. Provisions of Bidding document shall prevail.
852.	**Part-1, Page 52 of 1309,** **Power Simulation Software** CP-304Section III Evaluation and Qualification Criteria; 2.4 ** (A Bidder shall also be required to submit a certificate, from the developer / vendor of the software, that the simulation.....	Since generally Simulation Software Developer / Vendor sell their software to Engineering companies for them to use and they have no control over the Projects it is being used, it is not possible to get a certificate from Developer / Vendor. Such condition does not help in using internationally used software for want of such certificate, when bidders themselves are using such software for very long years.	Please refer response at Query No. 797.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
		Software adopting the Standards and Norms shall be acceptable; thus request you to delete this specific note / requirement.	
853.	**SPLICE on Catenary & Contact Wire due to Theft** CP-304 Part 2 / Section VI / Volume 2 / Particular Specifications–2x25kV, AC Traction Electrification and Associated Works / 8.4 OHE CONDUCTORS / Clause No: 3 (b) The contact wire shall be continuous, i.e. splicing or jointing of the conductors is not permitted between terminations or between cut-in insulators. Splices are primarily used during maintenance and shall not be used in the contact wire and /or catenary wire ***by way of installation or repair unless approved by the Engineer.***	Use of Splice shall be modified due to unavoidable situation as under. 1. No Splice will be used in Installation but for the below unavoidable Situation. 2. Please confirm that Splices are acceptable due to theft for special conditions as below a) on Catenary wire, which is not in Panto zone b) on Contact wire only on Out of Run from Panto Zone. 3. DFCC is requested to permit Section wise charging of 25kv, on its readiness to charge sanctioned by EIG/DFCC/Engineer. 4. If the above conditions are not acceptable, then DFCC is requested to suggest the alternative to overcome such Theft situations, as it's a known fact that such Situations may arise even if the section is anti-theft charged.	The provisions of the Bidding document are self explanatory and shall prevail.
854.	**LC Gate Requirements** CP-304 Part-2 Vol-3 2.2.6(1)(h) The gateman shall be provided with audio visual 'Train Approach Warning' indication from a suitable distance (approximately 8 km) on DFCCIL lines, as per approved GWR by IR depending on the gate position. When the train reaches at the approach warning track section in rear of the gate, Audio visual warning indication and buzzer should start sounding in the gate-hut intimating the gateman of the approach of a train. The gateman will close the gate and clear the gate signal provided the relevant track sections ahead are clear. When the lowering of the booms takes place, hooter shall sound to warn the road users of	1. In absolute block sections gates are dead approach locked as per existing normal practice, please confirm it is necessary to provide approach locking with track sections as this will impact the Bill of quantities significantly. 2. Also Confirm the following at New LC Gate (25+7) constructed for CW+E&M by CST. a) Bidder has to extend only the existing LT Transformer Power Supply on IR side to the new LC Gate b) There is no need to extend the DFCC LT Power Supply at New LC Gate. c) There is no need for any change in existing LT Transformer on IR side and the available 25/240V LT Trafo on IR side is sufficient for the new LC Gate lodge proposed to be used by IR Gate man.	1. A general information for LC working has been given in bid document. However, the actual gate working will be as per existing GWR provided by IR. a) Bidder's understanding is correct. b) Bidder's understanding is correct. c) Bidder's understanding is correct.

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
	an approaching train. Also, the road signals shall start displaying a flashing red light towards the road users, which shall turn to steady red when the booms are fully lowered and positive boom locking is proved.		
855.	**Pre-bid Queries & Answers** Pre Bid Queries & Answers are issued by DFCC and also available at Website	Please confirm the following 1. Pre-bid Answers have the status of Addendum to the RFP whether replies are added in DFCC issued Addendum or not, as those replies are considered as Clarifications to the Tender/RFP. 2. Pre-bid Queries & Answers will form Part of the Contract Agreement with Addendum Status, as the Replies are the considerations base on which Bidder frames his proposal.	1. Response to Pre-Bid queries are for clarification only. Wherever addition or amendment to Bid document is required, is being done through amendment. 2. Pre-Bid queries and response will not form part of the contract agreement.

Re-Query from Bidders on DFCCIL response to Pre-Bid queries

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
856.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.1.1. Point (8) RAMS requirements of the Systems have been identified, apportioned to various subsystems and elements of the works and the associated designs for these have been demonstrated to be capable of meeting their allocated performance targets.	The bidder will consider the Systems RAMS requirements and their performance target; as detailed in their particular specifications (PS) i.e. • Vol 2 for Traction Electrification, • Vol 3 for Signaling and • Vol 4 for Telecom to demonstrate the System performance as per PS. Please confirm the Definition of SYSTEM RAMS, whether is it at Rail	Point 545: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	Definition of SYSTEM is not defined in the bidding document. As per Contractor understanding, it's on Rail Sub System Level as specified in the reference clauses in Volume 2 ,3 & 4.	The Bidder/Contractor shall demonstrate fulfillment of RAMS requirement and their Performance target, for the system/sub-systems as specified in the respective PS.

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
		System Level OR Rail Sub System Level as specified in the above reference clauses in Volume 2 ,3 & 4.			
857.	Part 2/ Section VI [1]- Vol 1/ GS/ CH12/ 12.23- System Assurance Submissions [2]- Vol 2/ PS- Electrification/ CH14/ 14.5.13- System Assurance Submissions [3]- Vol 3/ PS- Signaling/ CH7/ 7.2.4- System Assurance Submissions	With Reference to the clause [1], please confirm the System Level Submissions expected to be submitted during project execution phase. This is to ensure no duplication of the submissions for clauses [2] & [3].	Point 546: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	In the reference clauses, GS & PS are asking for the same document. As Particular Specifications are superseding the General Specifications requirements. Thus, the Contractor will submit the Particular Specifications stated documents to eliminate the duplications.	The Bidder's understanding is correct.
858.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.2.4 This System Assurance Plan will describe the RAM and Safety Assurance activities throughout the project lifecycle, comprising: (1) Preliminary Design (2) Detailed Design (3) Final Design (4) Manufacturing and Production (5) Testing and Commissioning (6) Operation	Please Elaborate the difference between point 2 & 3 i.e. Detail Design and Final Design. This is also contradicting with the "Plan development Stage" in Clause 12.23.1, as well.	Point 547: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contractor understanding is, both are same, thus Contractor will follows the Plan development stage for the deliverables, as refer in Clause 12.23.1.	The Bidder's understanding is correct.
859.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.8.1 (2) Construction and Installation Phase - The RAM activities shall include: c. Preparation of Reliability, Maintainability and Availability Demonstration Plans	The mentioned point is contradicting about the preparations of RAM Demo Plan, with the clause 12.23 / Table SNo. 9. Please confirm the correct phase to produce the RAM	Point 549: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor.	The bidding document is itself contradicting the submission phase of the RAM Demo Plan document. Thus Contractor will follow the Particular Specification	Refer addendum No. 14 SN-117.

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
		Demo Plan.	The Provisions of the bidding document shall prevail.	Deliverable List.	
860.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.11.1 Point- 7: A chargeable failure in the RAM Demonstration is defined as any relevant failure that requires repair or replacement of any subsystem or vehicle component. Chargeable failures also include intermittent failures, unverified failures, and software failures.	As per the Tender requirement RAM demonstration shall be done for the RAM targets, which is in terms MTBSAF(Mean Time Between Service Affecting Failures) As per Part 2/ Section VI/ Volume-2/ PS/ CH 14/ 14.2 / Point (4), Service Failure has been define. Thus, bidder requested to confirm, that the chargeable failure can be define as a Service Failure as per the definition and tender requirement. Mentioned Point 7 is contradicting with the above mentioned tender clauses.	Point 551: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contractor understanding the chargeable failure will the service failure as define in Part 2/ Section VI/ Volume-2/ PS/ CH 14/ 14.2 / Point (4), for RAM demonstration to meet the RAM targets which is in MTBSAF.	Please refer Addendum No. 14 SN-122.
861.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.11.3 Point (2) Maintainability Demonstration Test Plan (MDTP) shall be provided before the Final Design Review.	Is Maintainability Demonstration Test Plan separate document from RAM Demonstration Plan? Please confirm.	Point 554: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall	AS MDTP is not a part of deliverable list in GS & any PS. Thus, Contractor considered it as a part of RAM Demonstration Test Plan.	Maintainability Demonstration is under Main heading "RAM Demonstration". So MDTP may not be a separate document from RAM Demonstration Plan.

<table>
<tr><th>S.No.</th><th>Reference to Bid document</th><th>Clarifications sought by the Bidders</th><th>DFCCIL's Response</th><th>Re-query by the Bidders</th><th>DFCCIL Response on re-query</th></tr>
<tr><td></td><td></td><td></td><td>prevail.</td><td></td><td></td></tr>
<tr><td>862.</td><td>Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.18.3

Point s:
(3) System Operating Safety Plan;
(4) System Operating Plan;</td><td>Please elaborate the difference between and Customer expectation from the mentioned two plans.</td><td>Point 556: The Provisions of the bidding document shall prevail.</td><td>As per Contractor understanding the requirements from these two document have been fulfilled in Safety plan and OSHA as per their Particular specification; which covers the safety requirements towards operation.</td><td>Please refer Addendum No. 14 SN-116.</td></tr>
<tr><td>863.</td><td>Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.23.1

Point 13: Operation Safety Case
<table><tr><th rowspan="2">S No</th><th rowspan="2">Document Description</th><th colspan="4">Plan Development Stage</th><th rowspan="2">Remarks</th></tr><tr><th colspan="2">Design Stage</th><th>Manufacture/ Construction h/Installation</th><th>Testing/ Trial Run Stage</th><th>Warranty Stage</th></tr><tr><th></th><th></th><th>PRELIM</th><th>FINAL</th><th></th><th></th><th></th><th></th></tr><tr><td>13</td><td>Operational Safety Case</td><td>P</td><td></td><td></td><td>P</td><td></td><td>Second report shall be submitted within 7 days after the completion of safety validation test.</td></tr></table></td><td>Why the Operating Safety Case has been asked to produce twice?
As per International practice, usually the Operating Safety case shall be produce after final Trial Run or before the start of revenue service.
Please confirm.</td><td>Point 557: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor.
The Provisions of the bidding document shall prevail.</td><td>As per Contractor understanding and experiences with EN standards, the Operation Safety Case (OSC) will be deliverable before the start of Operation service only.</td><td>Please refer Addendum No. 14 SN-124.</td></tr>
<tr><td>864.</td><td>Part 2/ Section VI/ Volume-2/ PS/ CH 14 14.2
<u>Reliability Requirements</u>
Point (4) Redundant equipment/module/component shall change seamlessly when active part fails. If changeover has a finite time, contractor shall show that its system shall not obstruct the train operation.
14.3 AVAILABILITY</td><td>Referred both the clauses are contradicting, Please confirm which shall need to refer for designing.</td><td>Point 558: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor.
The Provisions of the bidding document shall</td><td>As per contractor understanding, the Reliability & Availability shall comply with the N-1 design requirement for RAM demonstration.</td><td>(1) There is no contradiction between the two clauses. Both the clauses should be referred for designing.
(2) The clauses referred pertain to redundant</td></tr>
</table>

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
	Point (10) Switchover between redundant equipment, or between redundant routings, shall occur automatically and immediately upon failure and shall be transparent to the users. Toggling in switchovers shall be prevented.		prevail.		equipment. Bidder's query is not relevant to the referred clauses.
865.	Part 2/ Section VI/ Volume-2/ PS/ CH 14 14.3 AVAILABILITY Point (14) Degraded performance or loss of any software or hardware dependent function of any end equipment shall be taken as unavailability.	Please Elaborate the referred clause as it contradicting the Point 7 of the same Clause 14.3 as well as the concept of redundancy. Please confirm.	Point 559: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contractor understanding, the mentioned "degraded performance "shall be refer to the N-2 condition only.	(1) Please refer Addendum No. 14 SN-123. (2) In this regard Bidder's attention is invited to clause 5.1.4 of PS (Electrical) which describes the Normal feeding scenario.
866.	Part 2/ Section VI/ Volume-2/ PS/ CH 14 14.4 MAINTAINABILITY Point (16) Maintainability Demonstration iv. The maintenance actions shall be distributed among the equipment of each test group in proportion to their expected failure occurrence and in accordance with the MTBF.	Please Elaborate the type of Test groups as mentioned in the referred clause.	Point 561: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	Contractor would like to rephrase the requirement in point (iv)- *"The maintenance actions shall be distributed among the equipment in proportion to their expected failure occurrence and in accordance with the MTBF."* As didn't get the details and expectation from Client about test groups.	The provisions of Bidding document are sufficiently clear. The Test group and maintenance actions shall be finalized with the approval of the Engineer.
867.	Part 2/ Section VI [1]- Vol 1/ GS/ CH12/ 12.23- System Assurance Submissions [2]- Vol 2/ PS- Electrification/ CH14/	The list of deliverables mentioned with Reference to the clause [1 & 2]; are the only deliverables which will be submitted during	No Answer- blank cell in DFCCIL's response	In the reference clauses, GS & PS are asking for the same document. As Particular Specifications are superseding the GS	The Bidder's understanding mentioned in Re-query is correct.

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
	14.5.13- System Assurance Submissions	project execution phase? Or some other documentation will be added as published in Chapter 12 of GS and Chapter 14 of PS of the referred clauses. ?		requirements. Thus, the Contractor will submit the PS stated documents to eliminate the duplications.	
868.	Part 2/ Section VI/ Vol 2/ PS-Electrification/ CH10/ 10.8.2 Availability Requirement: Point (b):-The availability figures for Traction Power functionality and the Traction power decision support system shall be 99.97%.	With Reference to the clause, please elaborate, what are the sub-systems of SCADA shall be considered under Traction Power Decision Support System?	No Answer- blank cell in DFCCIL's response	Please reply to the Contractor Query.	The Provisions of the Bidding Document shall prevail.
869.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.16 Point (2) : The testing procedures shall ensure that all the critical failure modes as identified during the FMECA / FMEA activity are addressed through proper test cases inclusion. A traceability matrix shall be developed such that these critical failure modes are traced back to the corresponding test cases. All failure modes shall be considered as critical failure modes unless the Contractor demonstrates by a sensitive analysis or other means that the impact of a failure mode on reliability and maintainability will be insignificant.	• Please elaborate the expectation from the procedures to address failure mode through the test cases? • What are these test cases? • What are the "Sensitive Analysis" and "other means", Please elaborate and explain?	Point 664: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contractor understanding, it is not a component R&D tender. Thus, on sub- system level the FMECA will be performed as the EN or IEC STANDARDS (whom so ever applicable).	The Contractor is not required to perform FMECA below the Equipment level. The modality for performing FMECA at system/sub system level shall be decided with the approval of the Engineer after award of contract.

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
870.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.19 12.19 "Proof of Safety"	As per our understanding the Operational Safety Case is considered as a "Proof of safety ". Please confirm.	Point 665: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per our understanding the Operational Safety Case is considered as a "Proof of safety "and the details given under the 12.14 shall be the part of Operation Safety Case as per the standard. And it is not the deliverable as per GS deliverable document List.	Bidder's understanding that "Operational Safety Case will form the basis of "proof of safety" is correct".
871.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.20 SYSTEM ASSURANCE DURING TRIAL RUNNING	System Assurance during Trial Run is Subject to the availability and performance of all the sub-system including Employers' input; other than CP-304. Please Confirm.	Point 666: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contract's understanding, the System Assurance during Trial Run is subject to the availability and performance of all the sub-systems other than CP 304 including Employers' inputs.	The Provisions of the Bidding Document are self-explanatory and shall prevail.
872.	Part 2/ Section VI/ Volume-1/ GS/ CH 12/ 12.20 Point (3) Evaluation of the effectiveness of system fault reporting, fall back systems, operating procedures and maintenance responses in the event of a number of system failures and degraded operating scenarios by simulating such scenarios during simulated revenue service.	Simulated Revenue Service is Subject to the availability and performance of all the sub-system including Employers' input; other than CP-304. Please confirm.	Point 667: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	Simulated Revenue Service is Subject to the availability and performance of all the sub-systems other than CP 304 including Employers' inputs.	The Provisions of the Bidding Document are self-explanatory and shall prevail.

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
873.	Part 2/ Section VI/ Volume-1/ GS/ CH 12 12.21 SYSTEM ASSURANCE DURING REVENUE SERVICE RUNNING "The Contractor shall continue to implement system assurance activities during and after the transition to revenue service including, but not limited to, the following requirements".	As per GC, Contract shall provide the warranty support during the DNP period. Thus, Contractor shall comply for the system assurance during the DNP. The GC requirement is contradicting with the mentioned Clause 12.16 of GS which is an open ended requirement.	Point 669: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contractor understanding the System Assurance demonstration will be implied during DNP only as per GC clause.	The Provisions of the Bidding Document are self-explanatory and shall prevail. Please also refer to Clause 12.22 of General Specifications, Vol. 1, Part 2 of the Bidding document.
874.	Part 2/ Section VI/ Volume-2/ PS/ CH 14 14.4 MAINTAINABILITY Point (4): Quantitative Maintainability assessments to all significant functional levels of the system, subsystems or equipment shall be allocated. Maintainability analyses during engineering, development and testing shall be used to evaluate the degree of achievement of the maintainability requirements. The Contractor shall identify the standards by which these allocations are made.	Please confirm, the Reference of Return of Experiences of the contractor against the allocation of Maintainability.	Point 670: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	Contractor shall identify the Maintainability allocations from the returns of experiences and benchmarks from their past Experience.	The Provisions of the Bidding Document are sufficiently clear. The Contractor shall identify the standards by which these allocations are made with the approval of the Engineer.
875.	Part 2/ Section VI/ Volume-2/ PS/ CH 14. 14.5.12 RAM Demonstration (iii) The requirements relating to Reliability and Availability shall be demonstrated throughout Trial Running Period	Reliability & Availability demonstration through Trial Run is subject to the availability and performance of all the sub-system including Employers' input; other than CP-304. Please Confirm.	Point 671: Being a design & build contract General/Functional/ Performance requirements have been specified. The detailed design is in the scope of the contractor. The Provisions of the bidding document shall prevail.	As per Contract's understanding, the Reliability & Availability demonstration during Trial Run is subject to the availability and performance of all the sub-systems other than CP 304 including Employers' inputs.	The Provisions of the Bidding Document are self-explanatory and shall prevail.

S.No.	Reference to Bid document	Clarifications sought by the Bidders	DFCCIL's Response	Re-query by the Bidders	DFCCIL Response on re-query
876.	Part 2/ Section VI/ Volume-1/ GS/ CH 12 /12.22 The Defect Liability /Notification shall be of minimum 24 Months from the date of Commercial operations and shall be monitored for RAMS compliance. The Failures and Performance shall be monitored on monthly basis and the result should meet the acceptable criterions. If the results of 6 months average do not meet RAM specifications than the DNP period shall be extended with full DNP obligations of the Contractors. The same may be extended with /without penalty for further period similarly.	If the initial six month average meets the RAMS compliance then will the extension of DLP will be applicable or not? Please confirm. As per our understanding, here the 6 month period is applicable from 19th to 24th month of DLP. Please confirm.	Point 714:. The Provisions of the bidding document shall prevail.	Please clarify how the DNP will be extended?	The Provisions of the Bidding Document are self-explanatory and shall prevail.

Clarification for Query at S.no. 261 (1 to 722)

Sr No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL earlier response	DFCCIL modified response
261.	PART-2, SECTION-VI, VOLUME – 3 Clause 2.2.6(1)(i) Another warning buzzer shall also sound when the train reaches a suitable Distance (approximately 4 km in rear of the gate) (approach locking track section) on DFCCIL lines as per approved GWR by IR. At this stage, if the gate is in closed position, track locking of the booms shall take place so that the booms cannot be opened thereafter till the passage of the train from the level-crossing. The route will get automatically released with the passage of train past the nominated track sections ahead of the gate signal. The gateman will then be free to open the gate.	As per the Clause PS 2.2.6(1)(i) As contractor will have to get approval for LC gates by IR, in view of the fact that we will select the interlocking system EI or Relay based which is most suitable for existing IR installation. Please confirm	Electronic Interlocking System shall be used at LC Gates.	The Logic for LC gate operation and control is included in bid document and being a Design build contract, the design shall be proposed by the Contractor and approved by the Engineer at design stage after award of contract. Electronic Interlocking is not compulsory for LC gate operation and control.