

Dedicated Freight Corridor Corporation of India Limited
 (A Government of India Enterprise)

DESIGN AND CONSTRUCTION OF SIGNAL AND TELECOM WORKS FOR DOUBLE LINE RAILWAY INVOLVING TRAIN DETECTION SYSTEM, TRAIN PROTECTION & WARNING SYSTEM, ELECTRONIC INTERLOCKING IN STATIONS, AUTOMATIC SIGNALLING IN BLOCK SECTIONS, INTERLOCKING OF LEVEL CROSSING GATES, DISPATCH TELEPHONE SYSTEM, FIBER OPTIC COMMUNICATION SYSTEM, GSM(R) SYSTEM, DIGITAL ELECTRONIC EXCHANGE SYSTEM, MASTER CLOCK SYSTEM AND VIDEO SURVEILLANCE SYSTEM FOR REWARI – MAKARPURA SECTION AND TRAIN MONITORING AND DIAGNOSTIC SYSTEM FOR DADRI – JNPT SECTION INCLUDING TESTING AND COMMISSIONING ON DESIGN-BUILD LUMP SUM PRICE BASIS OF WESTERN DEDICATED FREIGHTCORRIDOR

SIGNALLING AND TELECOMMUNICATION WORKS CONTRACT
(Rewari – Makarpura of Phase 1 and part of Phase 2)

CONTRACT PACKAGE ST P-5

Queries from Bidders

Sl. No.	Vol. No.	Section No.	Page No.	Clause No.	Title	Questions	DFCCIL's Response
1.	III Part 1	9 Part 1	22	5.4.1.2 vi)	Evaluator for Supervisory System	<p>Our evaluator can manage maximum 39 tracks.</p> <p>In case that UP line requires 20 tracks and DN line requires 20 tracks (i.e. 10 tracks are needed as supervisory), can evaluator for UP line be also used for the DN line supervisory evaluator? This is because 20% spares for 30 tracks (20 for main UP and 10 for supervisory DN) is available in the evaluator.</p> <p>And in case that UP line requires 20 tracks and DN line requires 30 tracks (i.e. 15 tracks are needed as supervisory), can evaluator for UP line not be used for the DN line supervisory evaluator? This is because 20% spares for 35 tracks (20 for main UP and 15 for supervisory DN) is not available in the</p>	<p>The Clause is modified as under:</p> <p>"If evaluators have spare capacity (beyond 20% of equipment maximum capacity reserved for future use), then evaluator of UP line main system shall be used for providing Supervisory system on DN line and vice versa. If spare capacity is not available, then evaluators of Main and Supervisory systems shall be separate."</p> <p>Refer Item No. 79 of Addendum 2.</p>

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						evaluator. Please confirm if our understanding is correct or not.	
2.	II	8	105	21.1	Mock-Ups, Prototype And Samples	Please kindly inform us the signalling equipment, which requires mock ups other than alpha stage software screens as specified in Clause 11.11.2 (ii).	The requirement will be decided by the Engineer depending on use of any assembly or new type of equipment / material etc.
3.	III Part 1	9 Part 1	13	3.3.3	IR Manuals	Please kindly provide us these manuals.	May be purchased from market or downloaded from relevant website by the Bidder.
4.	III Part 1	9 Part 1	23	5.5.1.6	Spare Slots	Please confirm spare slots for I/O sub-system rack shall be equal or more than 20% of the used slots.	Minimum 20% of the total available slots shall be kept spare and only balance (maximum 80%) can be used.
5.	III Part 1	9 Part 1 Annex-1	1	3.i)	System Response Time	Please confirm that 'a change of state at a wayside station' means a change of status at I/O terminal of TMS at station.	Change of state of the field gear is to be considered and not the status information at I/O terminal of TMS at station.
7.	III Part 1	9 Part 1 Annex-2	17	6.11	Miscellaneous User Terminal	Please clarify the number and location of the important and relevant offices, where the terminals are provided.	The Clause is modified as under: "Miscellaneous terminals shall be located at important / relevant offices to have first hand information about running of trains in visual form and in required format. This terminal shall be either connected directly on LAN or in field network." Refer Item No. 80 of Addendum 2.

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24.	I (1/2)	2	51	3.2 (c) (ii)	Minimum average annual procurement / construction turnover of 115 million USD1, calculated as total certified payments received for contracts in progress or completed, within the last five (5) years	Kindly consider to relax the requirement of "Fifteen per cent (15%) of the requirement" for each partner. This is for an Indian subsidiary of foreign company who reside near the Employer can join the consortium in order to enable better service for the Employer. Granting that the parent foreign company satisfies this requirement.	No change in financial situation criteria 3.2(c)(ii) is envisaged.
26.	I (2/2)	6	11-23	Schedule 4	Price schedule	What is the meaning of "% of Cost Centre Price"? Is this some requirement on the quotation?	With reference to PC 14.4 (d) and para 6 of Schedule 2, Vol. I part 2/2, "% of Cost Centre Price" is the percentage breakup of the pre-defined weightage assigned to the individual Cost Centre (% of Total Contract Price) for the purpose of estimating interim payment of each of the Works/stages of various items of work on completion under that particular Cost Centre.
29.	II		20	7.3.2.3 a)	Upload / definition of Project Plans as per the template and using software defined	What kind of software to be used, please kindly advise us.	Software used in integrated IT system of DFCCIL is SAP and GIS. However, outside agencies like contractors would be using mainly PMS

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					by the Employer.		and EAM Module of SAP.
30.	II		43	8.6.2	Factory Acceptance Test	Does the Employer come to Japan for the FAT for STEP items. Please confirm.	Shall be decided by the Employer on case by case basis.
31.	II		54	10.3.1	The Contractor shall promptly supply the Engineer with two (2) controlled copies of his quality system documents upon such documents being reviewed without objection by Engineer. The Contractor shall maintain such controlled documents throughout the duration of the contract. In addition, the Engineer may request further copies of the quality system documents and these documents shall reach to Engineer office within fourteen (14) days of notification.	Please specify the maximum number of copies.	Will be decided by the Engineer depending on requirement.
32.	II		109	23.2.7.1	First Article Inspection (FAI) shall be performed jointly	1) Will the Employer or the Engineer come to Japan for the FAI of STEP items, please advise. 2) Is the Engineer an employee of the	1) Refer to response to Q. No. 30 above. 2) The Engineer shall be Project Management

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					by the Employer or the Engineer and the Contractor on all major equipment items or sub-systems identified by the Engineer.	Employer or from some outer consultant?	Consultant.
33.	II		111	23.4.4	Partial Acceptance Tests	Please clarify the granularity of the partial acceptance.	Refer Clause No. 23.4.4.1 of ER-GS (Vol. II).
34.	III Part 1	1	4	1.4.4 a)	Signalling inside the Depot shall be provided by P-7 contractor. However, P-5 contractor shall provide TPWS on Test Track as well as on entry and exit signals in the Depot. In addition, P-5 contractor shall provide Signalling Monitor console in TPWS maintenance room in the Depot linking it to console of Signal Fault Controller in OCC.	Please clarify what is the TPWS maintenance room in the Depot. e.g. How is the space of the room? What kind of work expected in this room?	All preventive / corrective maintenance of ON - Board TPWS equipment shall be performed in the Depot. The TPWS maintenance staff with their measuring tools, spares, records etc. shall be housed in this room.
35.	III Part 1	3	12	3.3.2 Table S.No.1	EEIG: 97s066	In case there is discrepancy between ETCS SUBSET and EEIG, Which standard should take priority?	The order of precedence is given in clause No. 1.2.3 of Vol. III, Part 1. In case of any conflict, Clause 1.2.4 of Vol. III, Part 1 should be followed.

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36.	III Part 1	4	16	4.5.3	The Contractor shall measure the signal level and noise level in the site especially near the substation. Both P-5 and P-7 contractors shall confirm the electromagnetic compatibility based on the measured data.	What kind of signal to be expected to measure, please advise.	Signal level pertains to Signalling system's own working levels.
37.	III Part 1	5	18	5.3.1 i)	Three years after expiry of Defect Liability period.	Please advise the difference between "Warranty period" and Defect Liability Period". Does this item require 3 years of Warranty period after 2 years of Defect Liability Period? 5 years of a kind of warranty in total?	Yes, it will be 3 years of Warranty period after 2 years of Defect Liability Period.
38.	III Part 1			5.3.1 l)	TPWS shall be provided as per RDSO specification. SRS Ver.2.3.0	We understood this requirement is SRS Ver. 2.3.0.d (Ver. 2.3.0 + Subset-108).	Your understanding is correct. Refer Item No. 54 of Addendum 2.
39.	III Part 1	5	19	5.3.1 Table m)	Requirement of Juridical Recording Unit (JRU) in terms of Clause 4.1 (ii) (b).	JRU is not equipped with the existing TPWS system in India now. It should be better the DFC TPWS configuration to be same as the existing TPWS system, please confirm.	Requirement of Juridical Recording Unit is changed to "Not required". Refer Item No. 55 of Addendum 2.
40.	III Part 1	5	19	5.3.1 Table n)-(iii)	Location of Signals.	According to Vol.3 clause 5.3.1, P-5 contractor will design the location of signals. On the other hand, according to Vol.3 clause 5.5.1.18, Signal Sighting Committee will determine the location of signals.	Signal Sighting Committee will examine proposed Signal locations and recommend any changes required to improve visibility.

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						We understood that P-5 contractor will design the location of signal. Then signal Sighting Committee will check and approve it. Is this correct ?	
41.	III Part 1	5	20	5.3.1 8) (i)	to equip data base including gradient, curvature, turnout restricted speed, home(entrance) route location, starting (exit) route location, shunt route location and other necessary data in all the lines where TPWS operation is applied in order to calculate speed profile;	According to ETCS SRS, on-board equipment receives the gradient, SSP and other trackside information from the trackside. We'd like to request to modify this item in accordance with ETCS manner.	The Clause is modified as under: "to get gradient, curve, signal aspect and other necessary information from trackside Balise;" Refer item No. 56 of Addendum 2.
42.	III Part 1	5	20	5.3.1 9) (iv)	(iv) to interface with interlocking system and communicate the route condition and other necessary conditions;	Ground TPWS system interfaces with interlocking system via ECR as per required in RDSO TPWS standard RDSO/SPN/183. We'd like to request to modify this item accordingly.	The Clause is modified as under: "The TPWS track-side system shall interface with the signalling system without affecting normal working & safety of signalling system. It shall take input regarding signal aspect through potential free contacts of the Lamp Checking Relays (ECRs)." Refer item No. 81 of Addendum 2.

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43.	III Part 1	5	20	5.3.1 10)	Infill Balise shall be provided for all signals provided with switchable Balise unless specifically approved otherwise for any particular signal.	P-5 Contractor will design the location of infill balise including the review whether infill is necessary or not for the position.	The Clause is self explanatory.
44.	III Part 1	5	21	5.3.1 17)	Duplicated Doppler Radar speed sensor shall be provided to ensure compliance of Clause 5.3 of RDSO specification.	Doppler radar speed sensor is not equipped with the existing TPWS system in India now. It should be better DFC TPWS configuration to be same as the existing TPWS system, please confirm.	The Clause is modified as under: "Duplicated Radar shall be provided wherever need is felt to ensure compliance of Clause 5.3 of RDSO specification." Refer item No. 59 of Addendum 2.
45.	III Part 1	5	21	5.3.3 3)	In order to impose TSR through TPWS system, 2 temporary Balise shall be installed on both sides of TSR section. One is for TSR beginning location and other is for TSR end location.	We understood at the beginning point of the TSR, one balise group consist of two balises, and at the end point of the TSR one basic group consist of two balises. Is this correct. In addition how many TSR balises required, please advise.	1) The number of Balise required at the beginning & end of TSR shall be determined by the Contractor at design stage. 2) Requirement will be met from spares to be supplied under the contract.
46.	III Part 1	5	22	5.4.1.2 ii	If any Track Section of Main System shows occupied/error with its Supervisory system showing	As for the "automatic" reset requirement, how the Employer consider to keep the safety of automatic reset. Please advise the technical background of this requirement.	Refer to Annexure 11 of Vol. III, Part 1 of Bid documents which is self explanatory.

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					clear, automatic reset will be applied to the affected Track Section of Main System.		
47.	III Part 1	5	25	5.5.2.1 i) a)	the route on which train is to traverse is proved clear not only up to next signal but also adequate distance beyond it;	Is this require to keep always one block vacant between occupied blocks, please advise.	No. Adequate distance is only the overlap.
48.	III Part 1	5	34	5.12.1	The Contractor shall provide and install all railway operational signs which complement the Signalling system. These shall generally be located on trackside and shall be auto-reflective.	Please advise what standards (standard ID number) shall we refer for signs?	Refer to IRSEM for details.
49.	III Part 1	6	35	2 1)	Redundancy	Please add 2 out of 2 hot standby.	Redundancy requirements are given briefly in the referred table, Details may be referred to in Clause No. 5.5.1.3 of Vol. III, Part 1.
50.	III Part 1	6	36	5-2 signals	1) Aspect	Please clarify the definition of the "Calling-ON" in India for sure. When is it used?	Refer to IRSEM for details.
51.	III	7	38	7.1.2	Overrun Protection system	Overrun Protection system is provided by	Yes.

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	Part 1					TPWS. Is this correct?	
52.	III Part 1	7	38	7.2 1)	Relaxation or removal of Temporary Speed restriction.	According to the RDSO/SPN/183 Relaxation of TSR is done by temporally balise only. In this case, please clarify the expectation.	While implementation will be done at site with balise, this Clause requires action by Controller / ASM to serve as reminder to them.
53.	III Part 1	9	51	9.7.2 d)	Soak test	<ol style="list-style-type: none"> 1. What is the temperature for each equipment in soak test ? 2. Please clarify the coverage of soak test for each subsystem. 	<ol style="list-style-type: none"> 1) Normal room temperature. 2) To be kept powered ON and operated continuously.
54.	III Part 1	9	52	9.7.6 (1)	Factory Acceptance Tests of materials and equipment appearing in RDSO's list of Approved Vendors shall be got done by RDSO at contractor's cost.	What kind of material and equipment to be subject to the RDSO's factory acceptance test, please advise.	If the material / equipment procured is appearing in RDSO's list of Approved Vendors, its FAT shall be got done by RDSO.
55.	III Part 1	9	53	9.7.8	Compatibility test of TPWS	Please clarify how P-5 contractor gets a rolling stock to test the compatibility with existing IR trackside TPWS system. Also how about the existing IR on-board compatibility with the DFC line side TPWS?	<ol style="list-style-type: none"> 1) This shall be got organized through the Engineer. 2) This is already included in this clause as "..... and vice versa shall be tested".
56.	III Part 1	10	55	10.3.1.1	The following equipment rooms will be provided by Civil Works Project Contractors to install the Signalling	We understood Civil contractor provide "S&T Power Supply Room" for all stations, is this correct?	Yes.

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					equipment: (3) S&T Power Supply Room;		
57.	III Part 1	10	56	10.3.2.2	All the mounting brackets and accessories shall be corrosion resistant, aesthetically designed to match with all architectural finishes and of sufficient strength to mount the equipment securely.	Is there specific requirement on the color of rack in an equipment room?	Refer Clause No. 10.3.1.11 and 10.3.2.3 of Vol. III, Part 1 according to which the Contractor shall submit "specifications, sample of all the mounting brackets and accessories" for review by the Engineer.
58.	III Part 1	10	57	10.3.3.1	On board TPWS equipment including antenna shall be installed in each of the Electric Locomotives. The cabinet, cabling, connectors and terminal strips, antenna, power supply units, Odometer, DMI etc. shall be manufactured & supplied by the P5 Contractor. Installation for first few locos (say 4) will be done by P5	As for the on-board installation scope, allow us propose the ordinary Japanese way of on-board installation. Because the loco will be supplied by Japanese manufacture. Please review and modify the requirement in order to make installation work done smoothly and economically. i) P-7 contractor to be in charge of the installation design and installation work. 1. Supply of on-board equipment :P-5 contractor 2. Supply of installation manual including interface document :P-5 contractor	(a) These are finer details and can be got included in the Interface document to be prepared jointly by P5 & P7 Contractors. (b) The Clause is modified as under: "On board TPWS equipment including antenna shall be installed in each of the Electric Locomotives. The cabinet, cabling, connectors and terminal strips, antenna, power supply units, Odometer, DMI etc. shall be manufactured & supplied by the P5 Contractor. Supervision of installation for first few locos (say 4) will be done by P5 contractor at the

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					contractor at the Rolling Stock Contractor's work place simultaneously training P7 staff so that installation on balance locos can be done independently by them. P5 Contractor also shall install on board equipment for first two locos of CKD/SKD at nominated Workshop for TOT in coordination with P7 Contractor.	3. Supervisor for first few locos (say 4) :P-5 contractor 4. Installation work for all locomotive :P-7 contractor ii) P-7 contractor shall be in charge of installation work also for CKD/SKD at nominated Workshop in order to avoid the unnecessary extra installation cost.	Rolling Stock Contractor's work place simultaneously training P7 staff so that installation on locos can be done independently by them. P5 Contractor shall also supervise installation of on board equipment for first two locos of CKD/SKD at nominated Workshop for TOT in coordination with P7 Contractor simultaneously training Workshop staff so that installation on balance locos can be done independently by them." Also refer item No. 78 of Addendum 2.
59.	III Part 1	13	74	13.5.3 (5)	The Contractor's staff shall reach the site for maintenance support within one hour upon receiving the call-out request from Engineer and shall proceed to perform corrective actions to restore the system to full normal operation.	Please clarify the definition of "the site" to go within one hour.	Site is where the equipment has failed.
60.	III Part 1	13	75	13.6.1 (3)	5% of the total cable laid subject to a minimum of	Does this mean the Employer require to have 5% of cable spare?	Yes. It is 5% of total cable laid.

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				S.No.1	1 km of each type.		
61.	III Part 1	13	77	13.6.2 (4)	Any items not included as spare in the offer and subsequently found to be necessary during Defect Liability Period or during Maintenance contract period (if any) Shall be supplied by the successful tender FREE of COST.	1) We understands consumables are not included in the spares, and should be bought separately. Is this correct, please confirm. 2) Please clarify the terms and conditions of the Maintenance contract.	1) Yes. 2) No Maintenance Contract is proposed at present.
62.	III Part 1	14	79	14.3 (7)	The training shall be carried out at such locations where the greatest benefit for trainees may be gained. This may be in India, abroad, at place of manufacture, assembly or testing or at such other locations as may be necessary. All places of training shall be subject to be proposed by the Contractor and approved by the Engineer.	We understands that the transportation fee (air ticket, train ticket, etc.), accommodation fee (hotel, etc.), and daily allowance for the Employer's trainees to be paid by the Employer side same as IR tender case, is this correct?	Yes.

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63.	III Part 1	14	79	14.3 (10)	The Contractor shall be required to arrange technology transfer and training to the Employer's staff in respect of design, installation, testing and commissioning of the System and each subsystem. The Employer will nominate up to three (3) persons for each subsystem of the above training.	Please clarify which sub-system and which course will P-5 contractor train?	Refer to details contained in Chapter 14 of Vol. III Part 1 which are self explanatory.
64.	III Part 1	14	82	14.7 (4) (b)	Stage two shall consist of on-the-job training on Preventive and Corrective Maintenance.	How long is the on-the-job training period, please advise.	Details of on-the-job training are to be proposed and included in the Training Plan to be submitted by the Contractor as per Clause 14.4.1 of Vol. III, Part 1
65.	III Part 1	Annexure 1	1	1.3	Wall display shall include display of SCADA also. Provision of SCADA will be done by P-4 contractor and he will provide feed for display controller.	P-4 contractor shall pay attention to the specification of wall display and they shall design the screen layout taking this specification in to account. Quality of the SCADA screen on the wall display shall be the responsibility of P-4 contractor, please confirm.	Such details may be included in the Interface document to be prepared jointly by P4 & P5 Contractors.
66.	III Part 1	Annexure 1	1	2. (iv)	It shall be possible to	Please clarify about this requirement. What kind of change required here, please	This is to change the Server taking system load if one of

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					change the system load manually from Main to Standby and vice versa.	advise.	the servers needs to be taken OFF for any maintenance activity.
67.	III Part 1	Annex ure 1	3	5.1 x.	Text in Mimic Indication panel showing SCADA shall be readable from seats of Chief	SCADA should guarantee the readable text in Mimic indication panel, please confirm.	Refer response to Q. 65 above.
68.	III Part 1	Annex ure 1	7	6 xiii c	System will display crew details from the detailed link available in crew management software on query from various terminals of controllers & lobbies.	Please clarify if there is existing Crew Management System. If there is, please provide the information on the existing Crew Management System.	Not necessary as Crew Management System to be provided with TMS by the Contractor is standalone type.
69.	III Part 1	Annex ure 6	2-3	3.2 Table	Tentative location of Depots	We understood that there are 7 IMDs in the phase-1. Please clarify the outline of IMD. Also for all 7 IMD, is there TPWS maintenance room?	Refer Vol. V, V-4-1-1 & V-4-1-2 for location of IMDs. There is no separate TPWS maintenance room in IMDs.
70.	III Part 1	Annex ure 7-2	6	S.No.7 ST P-5 (i)	Provide space requirements to RS-P7 for fixing On-Board TPWS equipment (cabinet, DMI, Antenna, Axle mounted odometer etc.) in the Locomotive.	When should P-5 contractor provide space requirement of on-board unit to P-7 contractor, please advise.	This shall be determined jointly by P5 and P7 Contractors.

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71.	III Part 1	Annexure 7-2	6	S.No.7 RS P-7 (v)	Provide Braking interface to TPWS.	We understood the brake interface as follows: P-5 contractor provide requests and specification about brake interface to P-7 contractor. P-7 contractor will prepare the brake interface based on requests and specifications from P-5. P-7 contractor shall provide the brake performance curve, and guarantee the performance. Please confirm.	Refer to response to Q. 70 above.
80.	I	4	137	(4)(v)	Minimum Percentage of STEP Component	(1) Please specify additional STEP component items with that priority for the case if the minimum percentage of STEP components (56%) could not be satisfied by the already specified Essential and Other components. (2) Please clarify if any Japanese goods would be considered as STEP component in case if the additional items are not specified.	The para 4 of Section 4: List of Eligible Countries of Japanese ODA STEP Loans has been modified. Refer Sl. No. 5 of Addendum No. 2.
91.	I	5 Part B	162	8.7	Delivery Damages	We understand that the Contractor shall not be responsible for the Delay caused by the Interfacing Contractor and shall be entitled for the extension of time and monetary compensation for the Delay by Interfacing Contractor. Please confirm that our understanding is correct.	As specified in Clause No. 13.2.15 of ER-GS (Vol-II), if the contractor suffers delay by reason of failure caused by any other Contractor/interfacing parties with respect to agreed coordinated construction program the Engineers shall take such delay into account in determining any extension of time to which the contractor is entitled under the contract.

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							Further, the PC 8.7 has been modified for monetary compensation for the delay by Interfacing Contractors. Refer Sl. No. 6 of Addendum No. 2.
98.	II	8	1	1.2.1	Introduction	<p>The first phase of WDFC is elsewhere explained as 931 km of double line. However, according to the Bidder's calculation, the mainline length is 915 km or 913 km without break or with break respectively. Also EM P-4 describes its length as 915km.</p> <p>Please clarify where the difference between 931km and 915 km</p>	<p>931 Kms. is corrected as 915 Kms.</p> <p>Refer item No. 29 Of Addendum 2.</p>
99.	II	8	9	4.1.3 (1)	Preliminary Design	Please clarify whether this Preliminary Design means "Basic System Design" defined as Coordination Event ST-2 or not. If not, please advise the time frame if any.	<p>Both are same. "Basic System Design" is changed to "Preliminary Design".</p> <p>Refer item No. 12 Of Addendum 1.</p>
100.	II	8	9	4.1.3 (2)	Detailed Design	Please clarify whether this Detailed Design means "Detailed Design" defined as Coordination Event ST-6 or not. If not please advise the time frame if any.	Reference to Clause 4.1.3 (2) is not correct. If you are Referring to Clause 4.1.1 (2), then your understanding is correct.
101.	II	8	9	4.1.3 (3)	Installation Design	Please clarify whether this Installation Design is included in "Detail Design" defined as Coordination Event ST-2 or not, if not, please advise the time frame if any.	Reference to Clause 4.1.3 (3) is not correct. If you are Referring to Clause 4.1.1 (3), then this is included in Coordination Event ST-6.

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							Refer item No. 12 of Addendum 1.
102.	II	8	22	7.5.5.3 iii)	Imported Equipment	IPS, CCTV, SDH, WAN, MCS have been asked to comply RDSO specs while SMPS cables etc have been asked to source from RDSO approved vendor. Please clarify that under this clause only inspection is required for CCTV, SDH, WAN MCS or a type approval is required. getting a type approval for specific project would be difficult for OEMs	Sub Clause is modified as under: "Obtaining Cross Acceptance approval from RDSO for imported Signalling equipment, if not already obtained;" Refer item No. 32 of Addendum 2.
103.	II	8	87	16.2.1	16.2.1	Please clarify which telecom equipment needs which type of approval by which authority, RDSO or TEC.	Refer Clause 13.3.7 of Vol III Part 2 for details.
104.	III Part 1	9 Part 1	11	3.2.3	Design Criteria Safety Case for TD	(1) Please confirm Track Vacancy Detection System for stations is not redundant, as described in sub-clause 5.4.1.3. (2) The wrong axle counting will mostly come from the operation of light vehicles under DFCCIL responsibility. Accordingly, please confirm that the safety analysis by the bidder is limited to Axle Counter System itself and exclude the above external interference.	1) Contents of Sub-clause 5.4.1.3 are confirmed. Also refer item No. 45 of Addendum 2. 2) Performance of Axle Counters shall be as per relevant RDSO specifications which includes light vehicles. Therefore, the safety analysis shall not exclude operation of light vehicles.
105.	III Part 1	9 Part 1	17	5.1.5)	External Data Logger	Please confirm that DFCW data logger function by TMS will not need connectivity with the existing IR data	Confirmed

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						logger network.	
106.	III Part 1	9 Part 1	18	Table	Period of Warranty	Warranty period of TPWS is requested 3 years after expiry of Defect Liability Period in the table. Please confirm the warranty period of TPWS is 2 years covered by Defect Liability Period specified in Appendix to Bid (GC Sub-clause 1.1.3.7), in the same manner as the other subsystems.	Refer to response to Q. No. 37 above.
107.	III Part 1	9 Part 1	22	5.4.1.2 vi)	Evaluator for Supervisory System	Please confirm that spare capacity of 20% is in terms of the used capacity, not of equipment maximum capacity.	Refer to response to Q. No. 1 above.
108.	III Part 1	9 Part 1	23	5.4.1.9 5.4.1.10	TD reset by OCC/ASM	Please confirm that TD reset will be only by ASM from stations, not from OCC.	"OCC/ASM" is replaced by "ASM". Refer Item No. 60 of Addendum 2.
109.	III Part 1	9 Part 1	23	5.5.1.6	Spare Slot of EI	Please confirm that spare capacity of 20% is in terms of the used slots, not in terms of equipment slots designed for maximum use.	Refer to response to Q. No. 4 above.
110.	III Part 1	9 Part 1	23	5.5.1.7	Spare Cores of Cable	Please confirm that 20% of cable spare cores is in terms of the used cores, not in terms of total cable cores.	20% of total cable cores shall be kept spare.
111.	III Part 1	9 Part 1	25	5.5.1.17	Health and Condition monitoring of LED Signal	Please confirm that now ECR will serve Health Monitoring of LED signal, and that the conventional dedicated external Health Monitoring Unit is not required.	Please refer to latest RDSO Specification of LED signals.
112.	III Part 1	9 Part 1	30	5.10.13	Power Supply System	Please confirm that AC/DC converter and/or DC converter may be an integral part of subsystem equipment subject to its design philosophy.	Confirmed.
113.	III Part 1	9 Part 1	53	9.7.8	Compatibility Test of TPWS	(1) Please confirm that "initial section of about 60km" means "Rewari - Dabla to be completed by MS-1." (2) If yes, please clarify the milestone of this	(1) Refer to response to Q. No. 82. (2) This test shall be got

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						<p>compatible test run along with the work split and responsibility between DFCCIL and the Contractor.</p> <p>(3) Please identify IR section where and when On board TPWS of DFCCIL shall be tested along with the work split and responsibility between DFCCIL and the Contractor.</p>	<p>organized through the Engineer who shall assign work split and responsibility between all involved parties including IR.</p> <p>(3) Section of IR shall be got decided by the Engineer.</p>
114.	III Part 1	9 Part 1	60	10.5.1.1	Pre-Wired Hut	<p>Please confirm that pre-installation and pre-wiring of the signalling equipment for Auto Location Hut is not mandatory, however is left as option so that the Contractor may select the best way to complete the hut from the viewpoints of construction schedule, logistics circumstance etc.</p>	<p>Pre-wiring is to be got done to the extent possible. If any exception is to be made, the Contractor shall get the same agreed by the Engineer.</p>
115.	III Part 1	9 Part 1 Annex-2	3	4.1.C iv)	OCC Location	<p>Please confirm that OCC is at Ahmedabad, not in National Capital Region as stated in Par. 3.5.(2) of Annexure 6 "Policy of train Operation Planning on WDFC</p>	<p>OCC will be in or around Ahmedabad city within about 15 Kms. from Right Of Way. Annexure 6 amended accordingly. Refer Item No. 74 in Addendum 2.</p>
116.	III Part 1	9 Part 1 Annex-2	18	7.1 vi)	LAN Connection to DFC's Other Corridors	<p>Please confirm whether "Other Corridor" means DFCE only, or others. If it means other than DFCE as well, then please identify the number of corridors for the provision of necessary interfaces.</p>	<p>It means Eastern Corridor at present.</p>
117.	III Part 1	9 Part 1 Annex-6	1	3.1	Block Working Between IR and DFC Station	<p>(1) Please confirm that the operation between IR station and DFC station is absolute blocking system.</p>	<p>(1) Signalling system between IR and DFC stations shall be proposed by the Contractor for review by the Engineer. This system can be</p>

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						<p>(2) Please clarify who will provide TD, Block Instrument, Home/Starter Signals at both end, cables between the stations.</p> <p>(3) Please clarify whether interconnection line is electrified or not for Phase-1 and Phase-2.</p>	<p>different for different link lines depending on length of connecting line.</p> <p>(2) Refer to details in Annexure 7-4.</p> <p>(3) The Signalling system should suit 25 KV.</p>
118.	III Part 1	9 Part 1 Annex-7-3	2	2.2	Interface with Civil Works Contractor	<p>According to sub-clause 13.2.3 of GS, Vol. II, contrary to the requirement of this sub-clause 2.2, Civil & Track Contractor shall take a lead.</p> <p>Please clarify which contractor shall take a lead for interface coordination.</p>	<p>Civil & Track Work Contactor shall take lead for Interface coordination. Annexure 7.3 is amended accordingly.</p> <p>Refer Item No. 76 in Addendum 2.</p>
119.	III Part 1	9 Part 1 Annex-8	3	8.1	Earth Work for Pre-fabricated Auto Location Hut	<p>Please confirm any earth work shall be by Civil & Track Contractor as stated in sub-clause 4.22 of Annexure 7-3.</p>	<p>Note that provision of earthwork by Civil & Track Contractor is limited to "above slope section on the embankment or by the side of the track" only. Any earthwork outside this area shall be provided by STP-5 Contractor only as per Clause 8.1 of Annexure 8.</p>
120.	III Part 1	9 Part 1 Annex-9	23	22	Signalling Cable for LED Signal	<p>Please confirm unscreened signalling cable shall be applied to LED signals with cutting relay arrangement of 600m interval along the wayside. Please clarify whether twisted pair cable with screen can be applied to avoid the cutting relay along wayside under the situation that Auto Location Hut will be</p>	<p>1) Cables to RDSO specification shall be used.</p> <p>2) Length of circuit for cutting – in relay will depend on the relay characteristics as</p>

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						installed every 5-6 km	given in Chapter 22 of IRSEM.
121.	III Part 1	9 Part 1 Annex-11	10, 11	Drawing s	RDSO Guideline on Auto. Signalling Using MSDAC	The drawings attached not clear. Please provide the clear drawings.	Fresh drawings are attached as Attachment :Addm 2-2.
164.	II	19	97	19.3	Utilities	<p>Since most of the DFC track alignment will run parallel to IR's track, it is likely that signal & telecom cables of IR which are live and working have to be shifted, which means that first new cables must be laid and transferred to IR's working system and then old cables are released to make way for DFC track. This will involve interfering with IR's signaling and telecom systems needing great deal of coordination and meticulous planning.</p> <p>The similar work in eastern corridor in Mugalsarai- Kanpur section is done by IR themselves through IRPMU. In case of western corridor, it will be appropriate for practical reasons that such an intricate work is done by IR themselves.</p>	Shifting of IR's signal and Telecom cables shall be got done by IR only.
165.	III Part 1	1	1	1.1.4	General	<p>Contractor to integrate DFC signalling system with that of IR at points of Junction for seamless operation.</p> <p>It is our considered opinion that this job is best done by IR themselves as any interference by DFC contractor with a working system may not be desirable. More over IR's interlocking system presently working will be of propriety nature & quite different than what is planned by DFC</p>	<p>Refer to Clause 1.2 of Annexure 7-4 of Vol. III, Part 1 of Bid documents which clearly explains role of ST P-5 Contractor and IR for integrating signalling system between DFCCIL & IR at Junction Stations.</p> <p>No change in the same is envisaged.</p>

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						<p>contractor</p> <p>We understand that on Eastern corridor IR will do the job at junctions where DFC and IR systems meet.</p>	
166.	III Part 1	1	3	1.3.8	Employer's requirement	Normal codal life of EI systems as specified by IR is 15 years, why DFC is asking 20 years. Normally codal life of software embedded microprocessors systems is 15 years. This may be reviewed. Similarly auto signalling in block sections will deploy electronic systems at way side huts which are required to work for 30 years as per clause 1.3.8 which appears to be very high compared to IR norms.	<p>The Clause 1.3.8 is modified as under: "The Signalling System's electronic equipment shall be designed and supplied for a Design Life of 15 years and associated wayside equipment shall be designed and supplied for Design Life of 25 years."</p> <p>Refer Item No. 38 of Addendum 2.</p>
167.	III Part 1	1	3	1.3.9	Employer's requirement	How is it possible to submit RDSO approval certificates along with bid offer for locally procured signalling items which do not appear in RDSO approval list.	<p>Words "... along with RDSO approval certificates..." are deleted.</p> <p>Refer Item No. 39 of Addendum 2.</p>
168.	III Part 1	4	15	4.3.1	Reliability requirements	Provision of redundancy- there are many sub-systems which when fail can cause signal failure affecting train operation but normally not duplicated eg signal lamp, signal cable, It will be appropriate for DFC to be more specific for this item.	This provision is for sub-system and not individual equipment or material. No change is envisaged.
169.	III Part 1	4	15	4.3.1	Reliability requirements	Does requirement of MTBF not less than 7 days for entire Rewari- Makarpura section means that no equipment in this long stretch can fail for 7 days or only about 4 failures	This Clause is for equipment reliability and not for all type of failures. No change is envisaged.

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						are allowed in one month. Is it practicable , going by the experience on IR even for the best maintained sections?	
170.	III Part 1	4	16	4.3.6	Reliability requirements	Reliability of a point machine to have 1 failure in 1 million (10 lakh) operations appears to be unrealistic and requires a review.	Deleted. Refer item No. 50 of Addendum 2.
171.	III Part 1	5	17	5.1 3(f)	Functional requirement General	Signalling equipment shall immediately report – unauthorized or potentially unsafe train movement. In above case unauthorised and potentially unsafe aspects need to be clearly defined and be specific.	“unauthorized or potentially unsafe train movement” is replaced by “Passing signal at Danger”. Refer item No. 52 of Addendum 2.
172.	III Part 1	5	22	5.4.1.6	Train detection System	For TD, contractor shall propose his own measures to enhance safety and reliability-this needs elaboration as what need to be done in technical terms.	These measures shall primarily be to prevent theft, damage or disturbance due to outside interference or any other reason.
173.	III Part 1	5	23	5.4.1.10	Train Detection System	Resetting of failed track sections by OCC needs clarification- does it match with existing IR rules for resetting.	Refer to response to Q. No. 108 above.
174.	II	4	10	4.4	Design, supply and construction phases	What is DLP in the block diagram- should it be DNP meaning defect notification period ?	Both DLP & DNP are same.
175.	III Part 1	5	31	5.10.23	Power Supply System	codal life of batteries asked is 10 years as against 5 years on IR- needs review	No change envisaged.
176.	III Part 1	5	17	5.1(4)	Functional Requirements-General	Alarms to be dealt by loco pilot and those by ASM/OCC may be different and need to be specified	Annexure 1 (Clause 9.3 & 9.4) and Annexure 2 (Clause 6.8 (B) 8 & 11.2) give more details. The actual details shall be proposed by the

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							Contractor for review by the Engineer as part of Detailed Design.
177.	III Part 1	5	23	5.5.1.8	Electronic Interlocking System	Expansion of system cannot be unlimited .It must be defined in terms of routes.	After the word "installation" add "as per yard layouts supplied". Refer item No. 61 of Addendum 2.
178.	III Part 1	5	25	5.5.1.17	Electronic Interlocking System	Health & condition monitoring to be well defined in terms of technical details and equipment wise.	1) Electronic equipment like MSDAC, TPWS, EI etc. are expected to have in-built Health Monitoring. For point machine, manufactures have proprietary standard modules. 2) Clause 5.5.1.17 is modified as under: "Health and Condition monitoring of all equipment including point machines shall be provided." Refer item No. 65 of Addendum 2.
179.	III Part 1	5	27	5.5.2.2(iii)	Electronic Interlocking System	"The calling of points and crossing that are not available shall not be stored pending their release" Language of this sentence is not clear	It implies that if any point is already locked in one route and the ASM initiates route setting with this point required in other position, the route can't be set. This requirement shall not be stored in the memory of EI for moving the point when it becomes free and then

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							setting the route.
180.	III Part 1	5	27	5.5.2.2(vi)	Electronic Interlocking System	Line 3 reads" automatically motor back" pl. explain or is it "move back"	The Clause implies that the point shall not get the power to motor for moving back.
182.	III Part 1	5	28	5.8.10 5.7.10	Block sections	Covering of cables by bricks in block section may be reviewed as this is not a practice on IR	Covering of cables by bricks is required. Refer clause 7.1.6 of Annexure 9 of Vol. III, Part 1 of Bid Documents.
183.	III Part 1	5	29	5.10	Power Supply System(PSS)	The detailed description of PSS has to be as per RDSO Specs for IPS. Kindly confirm.	PSS shall be as per Vol. III, Part 1 of Bid Documents.
184.	III Part 1	9	13 of 84	3.4.5	System Assurance	Who are the ISA capable of certifying safety systems in India? Will CRS sanction of system suffice?	CRS shall not be considered as ISA. ISA can be from any country.
185.	III Part 1	9	25 of 84	5.5.1.17	General	Can RDSO specification for Health and Condition monitoring of Point Machines be used or is any other international standard to be adopted?	There are no RDSO specifications for this equipment. International Standard proposed for adoption should be indicated.
186.	III Part 1	9	29 of 84	5.8.3	Level Crossing gates	With or without Hand operated generators?	Refer Clause 3.3.2 in which specification to be followed is given.
189.	III Part 1	9	Annexure 2: Page 1 of 44	2.4	FUNCTIONAL REQUIREMENT SPECIFICATION (FRS)	What are the Dimensions of Wall display?	The Contractor has to design the same keeping in view the Annexure 1 Clause 5.1 (ix) and (x).
191.	III Part 1	9	Annexure 7-4: Page 1 of 2	1.2	Definition and Scope	Para 1.2 says" all signalling work at IR Junction stations....shall be carried out by IR". Does it mean that whole work in the territory of IR for enabling receipt and dispatch of trains from/to DFCC line shall be done by IR?	Yes.
192.	III Part 1	9	1 of 84	1.1.3	General	1. Length of Test Track to be advised. 2. Structures to house TPWS eqpts for Test	1) Approximately 700 meters. 2) Provision of housing for

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						Track shall be provided by P-5 or P7	TPWS equipment is responsibility of P-5 Contractor. However, there is no objection to sharing P-7's structures with the consent of the Engineer.
193.	III Part 1	9	1 of 84	1.1.4	General	<p>WDFC line under STP-5 is originating from a location on Rewari-Hisar line, i.e. WDFC Ch.00, is on RE-HSR line. In this ref., please clarify:</p> <ol style="list-style-type: none"> 1. Only the location of take-off point on Rewari-Hisar Line from Rewari (NWR)stn is shown, but its distance / Ch from NW Rly's Rewari station, is not shown. Please advise its Ch or Km from IR Rewari station. 2. The signaling arrangements on IR line to protect this take-off point will be done by STP-5 contractor or by IR? Please clarify. 3. The take-off point is about 12 kms from DFC Rewari station, and DFC corridor is crossing two IR lines. Please advise if the crossing with IR lines is at surface or grade separation by means Rail flyovers shall be provided? 4. Please clarify if proper signaling is to be provided on this stretch? if yes, advise the agency, i.e. STP-5 contractor or anybody else. 	<ol style="list-style-type: none"> 1. There is no direct connection between DFC's Rewari station and IR's Rewari station. Refer to sheet V-1-1-6 in Vol. V of Bid documents for length of connecting line. 2. Refer to response to Q. No. 165. 3. Rail flyovers shall be provided 4. Suitable signalling system to be provided on this connecting line shall be proposed by the Contractor for review by the Engineer.

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							Regarding agency to provide signalling, refer to response to sub-item (2) above.
194.	III Part 1	9	13 of 84	3.3.3 (b,e)	Design Standard	Please provide a copy of WDFC G&SR and SOD.	May be purchased from market or downloaded from relevant website by the Bidder.
196.	III Part 1	9	4 of 84	1.4.3.3. (3)	OCC	Please define RPS cube size.	Refer to response to Q. 189
197.	III Part 1	9	4 of 84	1.4.5.2	Crew Lobbies & Signal Maintenance Base	Crew lobbies shall be located at every 500Km. Km 00 to decide location of crew lobbies shall at Dadri, JNPT, Rewari or Vadodara? Please clarify.	Crew lobbies shall be in Crew changing buildings as listed in sheet V-4-1-1 in Vol. V of Bid documents.
198.	III Part 1	9	4 of 84	1.4.5.2 (2)	Crew Lobbies & Signal Maintenance Base	Please define and list the "Other Necessary Eqpt" to restrict the scope of work. GSM@ terminal and EPABX phone are considered enough under Clause 1.4.5.2 (2)	Other necessary equipment in this Clause implies equipment necessary to link & work the TMS terminal.
199.	III Part 1	9	11 of 84	3.2.8	Design Criteria	1. Wherever Level Crossing gate serves both DFCCIL and IR tracks together, the Gateman of DFCCIL, or IR is goint to operate the gate and gate signals of DFCCIL lines? Please clarify. 2. Is sliding booms to be provided at LC gates? If yes, are they to be interlocked with signals at caution? Plase clarify.	1) There is no such L.C. Gate. 2) Regarding type of boom to be provided, refer to response to Q. No. 186.
200.	III Part 1	9	13 of 84	3.4.5	System Assurance	1. The concept of IS is not prevalent in India. Please advise qualifications and eligibility criterion of prospective ISA to be employed. 2. Is there any condition that ISA has to be from Japan or any other country outside India?	1) The Contractor's proposal for ISA shall be to International Standards. 2) ISA can be from any country.
201.	III Part 1	9	14 of 84	3.5.2	RAMS DEMONSTRA	Please define "Service" to identify "Service Afecting Failures"	Train operations of DFCCIL are the service.

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					TION		
202.	III Part 1	9	15 of 84	4.2.5 4.2.3	Safety Requirements	<p>Please elaborate and clarify clause 4.2.5. A SIL-0 TMS is acceptable in STP-5 or not?. The TMS need to be SIL-2 at a future date, or only its design need to be SIL-2 compliant? There is possibility that an eqpt's design is SIL-2 compliant, but the eqpt is not validated to SIL-2 standards. Please clarify.</p> <p>It is very difficult to upgrade a SIL-0 eqpt. commissioned for train working, to SIL-2, at a future date. Hence, why not to have a SIL-2 TMS right from the beginning.</p>	<p>Clause 4.2.3 is modified as under:</p> <p>"TMS can have SIL 0 or equivalent safety level."</p> <p>Refer Item No. 47 of Addendum 2.</p>
203.	III Part 1	9	15 of 84	4.2.5	Safety Requirements	<p>Train operations after power restoration shall start asap. Please define the time limits. The term "as soon as possible" is very subjective and may mean different time limit to different people.</p>	<p>The Clause is modified as under:</p> <p>"Even when long power failure results in total drainage of PSS batteries, the signaling system shall be ready after power-ON and initialization for use by ASM/Controller within two minutes of power restoration."</p> <p>Refer item No. 48 of Addendum 2.</p>
204.	III Part 1	9	22 of 84	5.4.1.2 (iv)	Train Detection system in Block Sections	<p>Facility to reset failed axle-counter section from nearest station shall be provided without any LV Box at site. Please confirm.</p>	<p>Confirmed.</p>
205.	III Part 1	9	23 of 84	5.5.1.7	General	<p>Please advise the spare cable cores in:</p> <p>a. Main Signaling Cables b. Tail Signaling cables c. Main telecom cables</p>	<p>a & b: As per Clause 5.5.1.7. Also refer response to Q. No. 110. c & d: Refer to Clause</p>

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						d. Tal telecom cables e. Power cable f. Optic Fibre Cables	7.5.6.5 Vol. III Part 2. e: As per Clause 5.10.19 & 5.10.34(ii) f: Refer to Clause 5.3.3.1.5 Vol. III Part 2.
206.	III Part 1	9	24 of 84	5.5.1.16 (1)	General	Please clarify if Clamp lock shall be provided on points or not?	Refer to Clause 5.6.9.
207.	III Part 1	9	25 of 84	5.5.1.17	General	Please elaborate the concept "Health and Condition Monitoring of all eqpt". The information on Diagnostics and Maintenance Terminal with Signal Maintainer, connected to respective CBIs / SSIs / EIs, shall be sufficient, or Health Monitoring system for Points and Signals, manufactured by RDSO approved vendors, need to be provided. Please clarify.	Refer to response to Q. No. 178 & 185.
208.	III Part 1	9	28 of 84	5.6.11	Stations	1. Please specify the depths at which RCC ducts shall be burried underground. 2. Cables from Home to Home, only along main line, need to be laid in RCC ducts, or cables in entire yard from Home to Home need to be laid in RCC ducts. Please clarify.	1. Refer to Clause 7.3 of Annexure 9 of Vol. III, Part 1 of Bid documents. 2. Cables in entire yard from Home to Home to be laid in RCC ducts. Refer Annexures 7-3 & 9 of Volume III, Part 1 also.
209.	III Part 1	9	28 of 84	5.7.9	Block sections	The status shall be provided on VDU. The Auto Locs shall be unmanned and permanently locked and hence VDU shall be lit 24X7.	The VDU shall normally remain switched OFF. It will be switched ON only when required for any maintenance activity.
210.	III Part 1	9	38 of 84	7.1.2	Fail Safe Technology	Please elaborate and define "Over-run Protection system". This seems to be a novel equipment / system, and hence, please also provide its specification	Refer to Clause 5.3.2 of Vol. III – Part 1 of Bid documents.
211.	III Part 1	9	55 of 84	10.3.1	Installation Works	Please clarify who will construct Crew Control Room, Telecom Equipmet room,	Civil and Track Contractor.

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						GSM -R room, and Station Control Room at stations?	
214.	III Part 1	9	65 of 84	10.8.1.3.5	Requirements of effective lightning and surge protection	The equipment on which incoming signaling cables are terminated, may have inbuilt surge arrestors, and / or, the OEM do not prescribe use of surge arrestors at the input of equipment. Please clarify is surge arrestors need to be provided at all signaling cables coming from outside?	Wherever equipment have in built surge arrestors for incoming Signalling cables, the same shall be used. Separate surge arrestors shall be provided at all other signalling cables coming from outside.
215.	III Part 1	9	67 of 84	11.2.1	Storage	Can surplus DFCCIL land be hired for temporary storage of material?	Refer Appendix 12 of Vol. II of Bid documents.
216.	III Part 1	9	67 of 84	11.3.6	Delivery	Please provide a list of "Dangerous Goods".	Refer Clause 40.2 in Annexure 10 (SHE document) of Vol. III – Part 1 of Bid documents.
217.	III Part 1	9	73 of 84	13.5.1	General	Contractor support will be available only for breakdown maintenance. All routine maintenance will be done by the O&M organization without contractors support. Please confirm.	The Clause 13.5.1(2) is modified as under: "During the first three months of Defect Liability Period, the Contractor shall provide necessary guidance to O&M staff in routine maintenance so that staff is able to carry out this activity independently as per training imparted for the same." Refer item No. 69 of Addendum 2.
218.	III Part 1	9	74 of 84	13.5.1(3)	General	It is very difficult to repair cards outside OEMs factory. Facility to repairing of cards to the extent prescribed by OEM, shall be provided.	Noted.
219.	III Part 1	9	74 of 84	13.5.2(2)	Workshop Repair	Name the agency to test and verify repaired parts.	To be indicated by the Contractor in Defects Liability

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							Management Plan.
220.	III Part 1	9	74 of 84	13.5.3 (5)	Support and call-out services	Does "the site" mean Controlling Station or Controlling Auto-Location, or the location of defective gear (if known to OCC staff). Please define "the site" under this clause.	Refer response to Q. No. 59.
221.	III Part 1	9	75 of 84	13.6.1(2)	Spares	Please advise the stage at which recommended spares shall be supplied to employer. Is it at the time of handing over of S&T system to Employer for revenue Operation?	Any time before Taking Over of completed Works by Employer.
222.	III Part 1	9	75 of 84	13.6.1(3)	Spares	Spares of only removable cards shall be supplied as spares. Please confirm.	Clause 13.6.1 (3) shall be followed.
223.	III Part 1	9	77 of 84	13.6.3	Special Tools, Diagnostic equipment and test equipment	The special tools and eqpt shall be supplied to Employer free of cost , or on chargeable basis. Pls clarify.	Refer to Schedule 5, Page 26 of Vol. I Part 2/2 of Bid Documents.
224.	III Part 1	9	78 of 84	14.2	Scope of Training	Para 14.2 (1) (a) talks of training of employer's maintenance personnel for maintenance of Signaling system. Please confirm that no training is to be given for maintenance of Telecom eqpt.	Refer to Chapter 18 of Vol. III – Part 2 regarding Particular Specifications on training to be given for maintenance of Telecom Equipment.
225.	III Part 1	9	78 of 84	14.2	Scope of Training	Please advise man-hours for on-shore and off-shore training, and name the agency bearing boarding, lodging and travel cost of the trainees.	1) Refer Clause 14.4 according to which the Contractor is to submit these details in Training Plan. 2) Refer to response to Q. No. 62.
226.	III Part 1	9	78 of 84	14.3	General Requirements	Please advise the man-hours for training to employers O&M staff.	Refer to response to Q. No. 225.
229.	III Part 1	9	Annexure 2: Page 3 of	C (iv)	Train Operation	Different locations of OCC are specified at different docs of STP-5. Delhi NCR or Ahmedabad? Please specify the exact location (co-ordinates) of OCC.	Refer response to Q. No. 115. Refer item No. 72 of Addendum 2.

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232.	III Part 1	9	Annexure 1: Page 2 of 13	5.1 (iv)	Live Indications in Control Office (On Overview Mimic Indication Panel):	Effecting major changes in yard layout is not possible without additional hardware. Please note.	The question is not relevant at this stage.
233.	III Part 1	9	Annexure 1: Page 4 of 13	5.4 (ii)	Live Indications to Signal Fault Controller Terminal	Remote Condition Monitoring is to be provided through RDSO prescribed eqpt / systems, or through something else. Please elaborate "Remote Condition Monitoring"	Refer to response to Q. No. 178 & 185.
234.	III Part 1	9	Annexure 1: Page 11 of 13	9.2 (i)	Replay of Event Log	Health Monitoring Systems of Points is to be provided as per RDSO prescribed eqpt, or it is something else? Please clarify. If it not RDSO prescribed system, please provide its specifications	Refer to response to Q. No. 178.
235.	III Part 1	9	2 of 84	1.3.6	Employer's Requirements	Kindly clarify further equipments to be provided under this clause.	There is no change to this Clause.
237.	III Part 1	9	11 of 84	3.2.5	Design Criteria	Can LEU's be provided trackside, if required by Design?	Clause 3.2.5 is modified as under: "LEUs shall preferably be provided indoor i.e. in Signal equipment Rooms at stations and in Auto Location Huts in Block sections. However, LEUs may be provided trackside if required by design subject to consent by the Engineer at Detailed

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							Design stage". Refer Item No. 46 of Addendum 2.
238.	III Part 1	9	35 of 84	6.2.5	Number of routes	If design requires, can IXL of routes less than 200 be provided? Some stations such as Pachar Malikpur are smaller in size, and may not need IXL of size bogger than 200 routes.	The Clause is deleted. Refer Item No. 82 of Addendum 2.
248.	Vol. II Vol. III Part 1	8 9	1 of 135 1 of 1	1.2.1 Annex 3 Annex 4	EMPLOYER'S REQUIREMENTS - GENERAL SPECIFICATIONS List of Junction and Crossing Stations – Phase 1 List of Junction and Crossing Stations – Phase 2	The distance between Vadodara and Rewari is mentioned as 931KM. This does not match with the distance indicate din Annexure 3 for Makarpura to Rewari showing a total distance of 852km	(1) Refer response to Q.98 above. (2) Approximate distances for P1 & P2 are corrected in Annexure 3. Refer Item No. 73 in Addendum 2.
249.	III Part 1	9	1 of 1	Annex 3 Annex 4	List of Junction and Crossing Stations – Phase 1 List of Junction and Crossing Stations – Phase 2	Kindly indicate the position of OCC (Ahmedabad) in the chainage.	Refer to response to Q. No. 229.
259.	I	2	51	3.2	Average	Please consider dropping conditions for	

Sl. No.	Vol. No.	Section No.	Page No.	Clause No.	Title	Questions	DFCCIL's Response
				(c)(ii)	Annual Procurement / Construction Turnover	'Each Partner' and 'At least One Partner'. 'All partners combined' shall meet requirement.	No change in financial situation criteria 3.2(c)(ii) is envisaged.
260.	I	2	51	3.2 (c)(iii)	Financial Resources	Please consider dropping conditions for 'Each Partner' and 'At least One Partner'. 'All partners combined' shall meet requirement.	No change in financial situation criteria 3.2(c)(iii) is envisaged.
287.	III Part 1	9 Part 1	25	5.5.1.17	Health and Conditioning monitoring	HMU (Health Monitoring Unit) for LED Signal Lights is not requested by RDSO anymore. Please confirm if our understanding is correct.	Please refer latest RDSO specification on LED Signals.