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, ELECTRONIC INTERLOCKING IN STATIONS, AUTOMATIC SIGNALLING IN BLOCK SECTIONS, TRAIN MONITORING & DIAGNOSTIC SYSTEM, 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 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)

CONTRACT PACKAGE ST P-5

Queries from Bidders

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629.	Vol.II Vol.III (2/2)	8 9	131 76	27.4.1 13.6.1 (5)	Commissioning Spares and Consumables Spares, Special Tools,	Commissioning spares are requested to be kept and maintained by the Contractor at site. We understand that, surplus Commissioning spares remained at site on completion of commissioning would remain with contractor and not required to be handed over to DFCCIL. Only contract spares would be handedover to	Yes, your understanding is correct.

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	Vol.III (2/2)	9	120	17.1.2.1	Diagnostic Equipment and Test Equipment Spares, Special Tools and Test Equipment	DFCCIL	
630.	Vol.II	8	132	27.5.1	Defects Notification Period Spares	It is specified that the Contractor shall keep sufficient stock of Spare Parts and Consumables in off-site at Headquarter. Please clarify the definition of "Headquater" and its location. (i.e: Contractor's site office? OCC? DFCCIL's Headquater? etc.)	It is Headquarter of Sectional/ Junior Engineers of DFCCIL.
631.	III part-1 III Part-2	9 9		10.1 Annex- B 11.1 of Apendex 7	Air Conditioning in ALH &TH	We draw your kind attention to requirement of air conditioning in ALH and TH given at clause 10.1 of annexure -8 vol.-III part1 and clause 11.1 of appendix 7 vol.-III part 2 respectively (Modified vide addendum 4A). Requirement of DFCCIL is to provide Panel AC on equipment rack itself in 1+1 redundant configuration, it means every	Employer's requirements for air conditioning in ALH and TH have been suitably modified. Refer item No. 476, 477 & 479, 480, 481 & 483 of Addm-11.

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						electronic equipment rack would have two panel ACs and air circulation fan also required to transfer heat generated by panel ACs. Since EI, DAC and GSM-R equipment would be imported from different OEMs, installing panel AC on the racks wouldn't be possible in view of following difficulties. We have also considered the option of putting all the equipment racks in another enclosure(s) and same is found to be impractical: - Installing two panel ACs on every rack is not feasible considering present size of the racks. Special big size racks need to be designed to install two ACs on one equipment rack. - Power consumption would be very high when we put AC on every rack in compared to situation when we cool the equipment room itself. - Any of the OEM does not have the experience of Panel AC installed directly on their racks, so performance of equipment can't be guaranteed. - As per RDSO specifications, EI and DAC equipment are	

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						good for operating temperature up to 70°C. Therefore, racks of these equipment are designed accordingly considering natural airflow. If we install panel AC, all the racks need to be of very special construction complying to IP54 which is not matching with RDSO specifications. If any modification is done in EI and DAC equipment rack to install panel AC, RDSO approval may be required again because it would be a design change. Moreover, quality of EMC wouldn't be guaranteed by OEMs once we put AC on rack already tested in factory as per RDSO specifications. - When primary power to Panel AC is interrupted, the temperature inside of panel will be increased rapidly due to its air tightness. - High temperature and humidity will be in ALH, and "dew condensation" occurs when air including the moisture touches the cooled equipment (when equipment door is opened for inspection/maintenance). This will have great adverse effect on electronic	

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						components and the parts on the circuit board in equipment. Therefore, it is the best if we cool the whole room with the air-conditioner. It may also be noted that PSS also comes under the definition of electronic equipment and same also need to be provided with panel AC if we comply to present tender specifications. PSS generates huge amount of heat and size of panel AC would be big and consume considerable amount of power. After discussion with leading panel AC solution providers, it is found impossible to provide panel AC on S&T equipment racks. In view of above, it is our considered opinion that practical and proven solution would be to cool the whole equipment room using 1+1 air conditioner and not the individual racks. Therefore we request you to delete the specific requirement of panel AC.	
632.	III part-1	9	25	5.5.1.22	Electronic Interlocking system	Vide Q&A part-9 item no. 596, it is clarified by DFCCIL that TMS terminal with ASM shall be used for controlling EI under CTC. It is mentioned in clause 4.1(viii) of Annex.-2 vol.-III part 1 that VDU type control cum indication panel will be provided with	EI terminal has been made separate from TMS terminal provided with ASM. Refer item No. 485,486 & 487 of Addm-11.

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	III part-1	9		4.1(viii) of Annex.-2	EI Terminal	Electronic Interlocking. Requirements of ASM's Graphic Terminal is defined in clause 10.4 of Annex.-2 vol.-III part 1, wherein it is not mentioned that ASM's terminal for TMS would be used for local operation of EI. It is possible to use controller's terminal at OCC for controlling EI under CTC when this function is implemented in future but at station side ASM terminal for TMS and EI terminal would be independent because ARS and CTC are future requirements. Since CTC is a future requirement and not covered under the scope of ST P-5 tender, Please confirm that separate terminals for TMS and EI operation will be provided at stations.	
633.	IV	10	188A		Details of main line LC	We refer to attachment: Addm. 10-1 where details of 41 no. main line LC gates is provided by DFCCIL. Only IR Km. for these gates are mentioned in this list. We request you to provide co-relation between IR Km. and DFC chainage at several locations so that DFC Km. of all the 41 LC gate can be calculated.	The list has been updated with DFC chainages. Refer Item No. 488 of Addm-11 for required information.
634.	III	9	92 of 128	11.1.5	VRLA	Now that the battery type is	Clause 11.2 of Appendix 7 is self-

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	Part 2			11.3.6 11.3.9 11.3.14	Batteries Required (Addendum Sl.453, 454 & 455	restored to VRLA, please confirm that Air conditioning is required for the battery room of porta hut, as originally specified in Clause 11.1 of Appendix 7 of Vol. III Part 2. The bidder considers that AC is must to keep service life of 10 years, as specified in Addendum Sl.455.	explanatory for ventilation of Power Supply/Battery Room. Also please refer to item No. 484 of Addm-11.
635.	III Part 2	9	Appendix 13 of 40 (Appendix 7)	11.1 11.3	Air Conditioning of Porta Hut Electronic Equipment Room	Further to Sl.615 of Replies to Queries from Bidders, the bidder would like to propose the normal type room air conditioners, as the above Panel AC system will have the problems / fatal demerit shown hereunder. Please confirm. (1) GSM-R/SDH/LAN Switch vendor does not have the experience on Panel AC installed directly on his BTS panel. If requested, performance guarantee will not be available. (2) The panel shall have very special construction for air tightness to prevent dew condensation when AC is not available. (3) When primary power to Panel AC is interrupted, the temperature inside of panel will be increased so rapidly due to its air tightness above.	Employer's requirements for air conditioning in Telecom Huts has been suitably modified. Refer item No. 480, 481, 483 & 490 of Addm-11.

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						Accordingly, DC48V battery backup system (4-hrs), originally provided for the uninterrupted operation of telecomm equipment, shall have very big capacity to cover Panel AC as well. (4) Panel AC cannot be applied to VRLA batteries, when air-conditioning is provided. Please note that when the room air-conditioning system is provided; (1) The outside unit will be protected from theft in a suitable manner (2) The room temperature will be maintained equal or less than 27deg C, as specified in original Clause 11.1 of Appendix 7 of Vol. III Part 2.	
636.	Vol. III Part 2	9	Appendix 13 of 40 (Appendix 7)	11.2	Air Conditioning of Porta Hut Power Supply/Battery Room	VRLA type battery will need air conditioning if 10 years life shall be kept. Please confirm that the battery room shall be provided with air conditioning system in lieu of ventilation system specified by Addendum Sl. 322, so that the room temperature will be maintained equal or less than 27deg C, as specified in original Clause 11.1 of Appendix 7 of Vol. III Part 2.	Employer's requirement on life of VRLA batteries has been deleted. Refer item No. 484 of Addm-11.

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637.	Vol. V Vol. V	11 11	V-4-1-1 V-4-1-2 V-5-1-2 V-5-1-7		List of Buildings in JS and CS Typical Layout of Buildings at CS Phulera Junction Station	Please confirm that the residential facility provided at CS/JS is an aggregate of Type II-V residential quarters and is not a big building shown in V-5-1-2 and V-5-1-7 typically for CS and JS respectively.	The referred drawings indicate only the land area identified by the Employer for construction of Residential Buildings as specified in V-4-1-1 & V-4-1-2. However, the layout of all the Residential Buildings shall be finalized by the Civil Contractor with the approval of the Engineer and is an interface issue for ST P-5 contractor.
638.	Vol. III Part 2	9	Appendix 1 of 40 (Appendix 1)		EPBX Telephone Location and Quantity	.Please confirm that Residential Buildings in the list means an aggregate of Type II-V residential quarters. Please provide the typical layout drawing of each type of residential quarters and approximate distance between station building and residential quarter area for telephone planning.	Requirement of each type of Residential Building has been specified in V-4-1-1 & V-4-1-2. For layout drawing, please refer response to Query No. 637.
639.	Vol I, Part II	5	Part A : Appendix to Bid	GCC Sub Clause 2.1	Right of Access to the Site	The phrase "prior to the start of work" is deleted from clause ATB 2.1 as per the corrigendum 9 - item no 434. If there is a delay in handover of the site from any interfacing Contractor to the STP-5 Contractor, then there will be serious repercussion in terms	No, the bidder's understanding is not correct. Refer sub-clause 13.2.15 of ER-GS (Vol. II) of Bid Document, which states "*If the Contractor suffers delay by reason of failure caused by any Other Contractor/ Interfacing Parties to meet the specified installation interfacing, co-ordination, and / or completion dates resulting in delay beyond the extent which could be reasonably*

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						of time and cost. The understanding is that the cost due to delay will be borne by DFCCIL and not by STP-5 contractor or any other contractor. May kindly confirm the understanding**.**	*foreseen by an experienced contractor at the time when the Coordinated Supply/ Installation Programme is formulated and consented by the Engineer, then the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under the Contract."*
640.	3 P(1/2)	9	32 of 87	5.10.9 & Response to Queries Set 8 (SI. No: 508)	PSS shall have inbuilt Redundancy.	As per DFCCIL's response to SI. No: 508 of response to Queries Set – 8, we understand that the PSS will have to be 2 X 100% redundant (including the batteries) at all the locations and not just redundant at modular level as per prevalent practices. In this scenario, we would like to bring to your notice that the space for battery rooms shown in Vol-5 V-4-2-6 & V-4-2-7 in station buildings looks to be insufficient to accommodate the PSS system and also carrying out maintenance will be very difficult. We would also like you to note that the batteries in the charged state will only deteriorate if they do not discharge in a timely manner. Considering the space	Refer response to Query No. 486.

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						shortage and the significant additional cost which this arrangement will attract we would once again like to request you to confirm that our understanding that 2X100% redundancy is to be provided (incl. batteries) is correct.	
641.	3 P(1/2)	9	16 of 87	4.4.4	Each Location Box and other such standalone track side box shall be provided with its independent light to attend to failures during night time.	In order to meet the lighting requirements at different locations alongside the track, will the contractor be allowed to use the remaining cores of signaling cable after allocating sufficient cores for signaling requirements and required spares as mentioned in the tender? Because, additional provision of separate power cable for this lighting purpose along the entire stretch will have huge cost implication. Please confirm.	Refer response to Query No. 318.
642.	--	--	--	--	General	As per the SEM, a contractor has to provide emergency communication at every 2 km / Auto-signal. In order for us to meet this requirement satisfactorily please clarify the following:	GSM(R) shall be used for the said emergency communication.

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						1. Can the contractor use the additional cores of quad cable after leaving sufficient spares as mentioned in the tender or will the contractor have to use a separate quad cable for this purpose? 2. To provide this, the contractor will have to consider separate associated telecom equipment. In this regard, please clarify whether or not the emergency communication sockets have to be considered for this tender.	
643.	3 P1/2 3 P1/2 - Annexure 9 3 P1/2 - Annexure 9	9 9 9	26 of 87 6 of 53 8 of 53	5.5.1.21 3.5.3 6.2	Separation for UP and DN line Redundancy for Power cables Excavation and backfilling of trenches	Cl. 5.5.1.21 requires the contractor to lay the cables for UP and DN lines in separate trenches with one trench on the side of each track. Cl. 3.5.3 states that all the power supplies at wayside stations as well as major yards may be laid with redundancy i.e. 2 power cables for each circuit to avoid major signalling breakdown affecting punctuality of train services during any damage/cable	Cl. 5.5.1.21 as amended vide item No. 169 of Addm-3 is self explanatory. This being a Design Build lump sum contract, the methodology of cable laying is the responsibility of the Contractor and is to be proposed by him for review by the Engineer depending upon the availability of ROW. The availability of ROW has already been advised. The variation, if any and if applicable in terms of PC 1.1.6.9 of Vol I Part ½ of Bid documents shall be dealt with as per the provisions of the Contract.

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						becoming faulty. After studying the ROW details provided in the tender, we would like to bring to your notice the following: 1. It is not possible to have one trench on the side of each track due to obstruction by IR track or the drainage between IR and DFCCIL track. This condition is prevalent almost along the whole route. 2. In view of point no. 1 above, we have to consider two trenches on the ROW available alongside the DFC UP Line / the Service Road end. 3. In most of the places along the route, the ROW is not constantly available alongside the UP line for us to be able to consider two parallel trenches. 4. Hence, the only option available with the contractor is to consider HDD for most of the stretch at least for one of the trenches. In case if the contractor has	

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						to execute the HDD works **on account of non-availability of ROW** please clarify whether or not the HDD will be treated as a variation order.	
644.	**NOT USED**						
645.	**NOT USED**						
646.	GEN	--	--	--	Performance Bank Guarantee	As per the tender requirement, the contractor is required to submit a bank guarantee of 5% of the contract value. The supplies under this project can be split into two major categories: Wayside and on-board works. The on-board consists of only one single item i.e. supply of one GSM-R antenna for 120 locos, which is approx. 2% of the contract value. We had requested DFCCIL to have a separate cost center and a corresponding bank guarantee for the on-board item mentioned above, so that the overall performance bank guarantee	No change is envisaged.

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						is not kept unnecessarily valid for a duration of 8.5 years. DFCCIL has issued an addendum – 9, in which a separate cost center for on-board equipment has been introduced, but not separated the performance bank guarantee. **Our Suggestion**: We request DFCCIL to split the bank guarantee into two parts namely one for the wayside and the second one for on-board. This arrangement will enable the bidders to keep the Performance Bank Guarantee for only a small portion of the contract value valid for 8.5 years.	
647.	GEN	--	--	--	Separate Sub-Cost Center for IR Interface Works	This project involves interface works with 10 IR stations at each Jn. Station and 4 industrial sidings. As per tender, the contractor has to interface with IR via DFCCIL and the works in IR jurisdiction will be carried out departmentally by IR.	If the Contractor completes his EI work at DFC Junction station and IR's portion of interface related work is not completed, the Contractor will get 95% of his payment for the said station leaving only balance 5% for "Successful completion of pre-commissioning checks & tests" as per payment schedule 5.3.1. In view of above, no change is envisaged.

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						It is mentioned in the tender that this work is covered under Cost Center No. 5.3 – Electronic Interlocking which covers the supply, installation, testing & commissioning of the whole yard. The amount towards the IR interface is a very small percentage (less than 1% approx. of the total cost center amount). Non completion of IR interface works due to reasons not attributable to ST P-5 contractor may lead to delay in payment of the entire cost center. **Our Suggestion**: We request you to insert a separate cost center under 5.3 towards interface with IR and private sidings for a value of 1% of the cost center value. We are enclosing our recommended cost center schedule as Annexure – 1 for your kind perusal.	

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648.	3(1/2)	9	Annexure – 8 Pg. no: 4 of 4	10.1	Panel Air - conditioning	The tender clause necessitates that Panel Air-Conditioner be used in all electronic equipment. The OEM's (STEP & Non STEP) whose electronic systems are to be accommodated in the Electronic Rooms (SER & TER) of the Auto-Location Huts (ALHs) have refused to accept installation of the Panel Air-Conditioning equipment on top of their electronic equipment as they fear this will have an impact on their EMC compliance, vibration conditions thus affecting the Safety Case. Further, the OEM's have refused to guarantee the performance of the equipment if any change is made to their panels to accommodate air-conditioning. **Our Suggestion**: In view of the seriousness of objections raised by OEM's, we request you to amend the clause to state that the ambient temperature inside the Electronic Equipment rooms (SER & TER) in porta huts is duly regulated with	Employer's Requirements for Air-Conditioning in porta huts have been suitably modified. Refer response to Query No. 631.

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						the use of room air-conditioners.	
649.	3(1/2)	9	Annexure – 7-6 Pg. no: 3 of 7	1.5	Interface issue between ST P-5 and ST-P5 A	In accordance with this clause, ST P-5 contractor has to interface with ST P-5A contractor on many aspects. The ones with direct cost implications are listed below: a. The Power Supply System provided by ST P-5 contractor shall cater to the requirements of ST P-5A contract. We need the load requirements of the TPWS equipment at each location to be given in the bid documents. b. Clarification is required on whether the TPWS equipment has to be connected to Integrated Power Supply or Un-interrupted Power Supply. c. The TPWS equipment to be provided by ST P-5A contractor shall be accommodated in the auto-location huts provided by ST P-5 contractor. In this regard,	Item wise response is as under: (a) All requirements in sufficient detail to the extent possible at this stage have already been given in the Bid documents. Both ST P-5 and ST P-5A being Design – Build Contracts, the Bidder has to work out other details from his experience, resources etc. It will be possible to determine finer details through Interface Coordination at Design stage as already advised in response to similar queries earlier. (b) Refer Cl. 5.10 of Vol. III Part 1, Cl. 1.5(iii) of Annex. 7-6 of Vol. III Part 1 as amended vide item No. 352 & 353 of Addm-5 and item No. 360 & 361 of Addm-6. (c), (d) & (e): Same as for (a) above.

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						we require the space requirement (footprint) of each TPWS equipment. d. The ST P-5 contractor has to keep empty slots on Cable Termination Rack for the TPWS equipment. Please specify the no. of empty slots to be provided at each location (station and ALH). e. ST P-5 contractor has to provide Panel air conditioning in 1+1 redundancy for all the electronic TPWS equipments in auto-location huts (ALH). Hence, we need the following information pertaining to TPWS system at each ALH: i. The No. of TPWS equipment to be installed. ii. The dimensions of each TPWS equipment **iii.** The heat dissipated by each electronic TPWS equipment. **<u>Our Suggestion</u>**: It is clear from the above that while the STP-5 has to cost for all interface related to STP-5A	

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						equipment namely the TPWS, there is no clear information in the tender document. Further, it is mentioned in the recent addenda that the details pertaining to TPWS contract shall be provided only after award of contract. It is impossible to make any assumptions due to the complexity of the system. It is therefore requested that the requirements of the TPWS equipment are clarified at bid stage itself.	
650.	3(1/2)	9	Annexures 1&2 – Train Monitoring and Diagnostic System	Refer Annexure – 2 to this letter.	TMS – Functional Requirements	We have requested certain clarifications with respect to TMS requirements. Even after the issue of Addendum 9 and your clarifications under the document titled 'Queries Response Part -8', the ambiguity in certain aspects still remains. In your response you have mentioned that 'will be decided at design stage'. We would like to further comment that unless the Functional Requirement Specification are clearly defined in the tender, the interpretation of the same can widely vary thereby leading to conflicts during the project execution. Hence, we once again request you to kindly clarify the points raised by us concerning the	Item wise response is as under: 1. to 3. (i) There is no ambiguity in Functional Requirements which have been given in sufficient detail. (ii) No conflict is foreseen during project execution. 4. (i) Same as above. (ii) Decision support is not a separate module but the Employer's Requirements pertaining to various modules in Annex-2 automatically facilitate decision making by the users.

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						TMS. We are once again reproducing these outstanding queries hereunder: 1. Queries on Interfacing of TMS with Crew Management System Ref. Clause No. 7.6 of Annexure 1/2 / Vol. 3 (P1) Kindly Clarify, a. Crew data managed by the existing CMS is provided at the time of basic design for WDFC. Necessary data only is extracted and used in CMS of WDFC. In this context, please define the necessary data and the size of data. b. New crew data is added manually. c. Crew Controller enters "Crew booking" and "Sign on/off" into the system manually. d. Crews' running time and distance are recorded and reported for the running allowances. e. DFCCIL Crew Management system is an offline system. 2. Queries on Terminals with	

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						ELMD & Lobbies Ref. Clause No. 10.5 of Annexure 2/2 / Vol. 3 (P1) Kindly Clarify, a. Failure information of locomotive is entered manually to ELMD Terminal and displayed at OCC Terminal. b. Operating information of WDFC is displayed at ELMD Terminal. However, its content is a part of the thing that TMS provides at OCC, and there is no additional information for ELMD. 3. Queries on Interface issues between Indian Railways & ST P-5 Ref. Clause No. 1.5 of Annexure 7-4 / Vol. 3 (P1) Kindly Clarify, a. Please clarify what kind of data of train runs DFCCIL is expecting to exchange with FOIS of IR. b. Bidder can provide MIS report information for FOIS. Please confirm if this is acceptable to DFCCIL. 4. Queries on TMS – Decision Support Ref. Clause No.	

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						11.11.2 (iv) of Annexure 2 / Vol. 3 (P1) Kindly Clarify, Decision support is included as part of software development. But the application and functional requirements of Decision support are not clearly mentioned. Please clarify this and furnish the detailed requirements of Decision support system.	
651.	II III part-1	8 9	15 Annexure 2: Page **8** of **44** Annexure 2: Page **11** of **44**	4.14.2 6.1 (xv) 6.5A(8)	Warranty Certificates of OEM Warranty of TMS Application Server and Controller Terminal	As per present tender specifications, warranty period of 3 years would start after completion of 2 years DNP. For COTS products like Servers, PCs and telecom equipments, OEM's warranty would start from date of shipping. In such case total warranty required would be construction period + 5 years which is too long. We can manage to provide such a warranty for products like EI, DAC etc. but not for COTS products because none of the OEM agrees to provide warranty certificate for such a long period. Please consider to change the start date of warranty for COTS products same as start date of DNP.	It is Contractor's responsibility to deal with any equipment defects till completion of DNP. Employer requires Warranty only after expiry of DNP. Extended Warranty is always available at certain price. In view of above, no change is envisaged.

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652.	**NOT USED**						
653.	II	8	15	4.14 (modified by Addendum Sl. 390)	Warranty Certificate from OEM	Please confirm that an additional 3-years equipment warranty after DNP is required only for Non-COTS (Commercial Off The Shelf) equipment, such as purpose built specific equipment like EI for signalling or BTS for telecomm. In the case of COTS equipment such as LAN Switch, general type server, PC, MMI display, printer etc, it is unrealistic for the manufacture to provide additional 3-years warranty after DLP, because the total warranty period becomes 7 years as follows and this will be too long considering the intended life cycle of COTS equipment by manufacturer. 2 years from delivery to putting operation 2 years for DNP 3 years for additional Warranty after DNP.	Refer response to Query No. 651.

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654.	III Part 2	9	55	6.3.13.3 (7)	Radio Coverage for OCC	Please confirm whether the required coverage specified in (7) i.e. "**all parts of OCC building complex**" means only the inside of OCC building itself, or include the outside of OCC building itself. If the coverage shall includes the outside area of OCC building itself, then we additionally need an antenna and antennastructure for the coverage of outside of OCC building. Please confirm that in this case the structure can be an antenna pole on the roof top of OCC building, rather than a standalone tower, specified in 6.5.3.12.	"**all parts of OCC building complex**" is self explanatory and includes inside and outside of the building. A pole on top of OCC building complex may be provided subject to interface with the civil contractor and with the approval of the Engineer/Employer.
655.	III Part 2	9	55	6.3.13.3 (8)	Radio Coverage for Residential	(1) Please confirm that **"Residential Quarters"** means 10 to 30 nos. of	1. Please refer to DFCCIL response to query no. 637 & 638 2. Refer to item 496 of

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	V	11	V-4-1-1		Quarters at all WDFC stations etc. List of Buildings in JS and CS	residential buildings indicated in List of Building V-4-1-1 of Vol. V or one single big building inside of station area. If yes, please indicate the approximate distance of the residential quarters from the stations, along with the approximate of the area. Depending of the above figures, the radio system shall be provided with additional BTS with antenna structure for the area. Also please confirm that when antenna structure is required, it can be an antenna pole on the roof top of one of the residential quarter building, rather than a tower specified in	Addm-11. 3. ST P-5 is for phase-1 of WDFC and as such Clause 6.3.13.3 (8) is applicable for all stations of phase-1.

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						6.5.3.12. (2) Please indicate all the residential quarters to be covered by GSM-R Phase-1 system other than WDFC stations. The statement of 6.3.13.3 (8) "at all WDFC stations **etc**" is vague and it is difficult to estimate the proper cost of the system.	
656.	III Part 2	9	54	6.3.11.6	Fixed Radio Terminal Equipment (FRT) for SCR	The Bidder understands from the requirement of this clause that it is DFCCIL intension to request the Bidder/Vendors to provide the special/custom made FRT deploying standard 8W On Board Cab Radio as under the situation that 8W FRT is not available in the market. Please confirm. Please clarify the	Bidder's understanding is correct. 8 WATT standard FRT complying with all requirements of PS, if available in the market can be provided. In case standard FRT complying with all requirements of the PS is not available, cab radio shall be customized as per PS.

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						provision of this customized FRT is mandatory or not, since the normal 2W FRT is enough for the services and the customized on board equipment costs much.	
657.	**NOT USED**						
658.	III Part 2 and Clarification S. No. 347 in Addendum-5	5	22	5.3.3.1.13	OFC Cables between OCC and Sabarmati South & Sabarmati North	Our understanding is that DFCCIL will facilitate for arranging the ROW (Right of Way) for the underground trench excavation for OFC Cable routing from Sabarmati South & North to OCC. **Pl. confirm that all costs/charges levied by Municipality/Municipal Corporation/Local Bodies/ Private Owners etc for providing ROW will be directly borne by DFCCIL.**	As already advised vide response to query no. 458 part 7, DFCCIL will facilitate for obtaining ROW for cable route from the DFC ROW to OCC. All costs/charges shall be borne by the Contractor.
659.	III Part 2 and Clarification S. No. 347	5	22	5.3.3.1.13	OFC Cables between OCC and Sabarmati South &	Please provide us the location of OCC in Ahmedabad City and proposed cable routing plan envisaged from both	Location of OCC modified as per item No. 72 of Addm-2 has also given approximate distance from ROW which is considered adequate for estimate purpose at this stage.

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	in Addendum-5				Sabarmati North	stations to OCC. **In absence of above details it is difficult to estimate the requirement of HDD (Horizontal Direct Drilling) for road/bridge/utility crossing and extent of manual trenching for the OFC Cable routing from Sabarmati Stations to OCC.**	Finer details shall be made available at Design stage.
660.	Vol-III, Part-2	11	91 of 128	11.1..2	48 V DC Battery Backup System requirement	As per the specification we are considering 48 V DC Battery & Battery chargers systems at OCC, Stations and Porta huts only. For remote locations like TSS, SP, SSP, ATS, LC gates etc., separate 48 V DC battery and Battery charger is not provided due to space constraints, the power supply requirement for switches/DTS phones at these locations will be taken care by laying suitable power cables from the 48V DC/UPS System at the nearest porta huts / station. Kindly confirm that the above is acceptable.	1 Please refer to clause 5.1.2 of Appendix 9-1 2 Power required for the DTS telephone at TSS, SP, SSP & ATS shall be arranged from UPS/battery system provided by EM P-4 3 Power required at LC gates shall be arranged by ST P-5 from the power supply being provided at the LC gate for interlocking.

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661.	Vol-III, Part-2 Addendum -4A	-	11 of 16	313	Layer-2 Switch specification	The referred clause indicates the Layer-2 switches shall meet all the requirements as specified in sub-clauses 5.5.3.5.1.8 to 5.5.3.5.1.12 of Volume –III, part-2, section-5, page no 35 of 128. Cl.no 5.5.3.5.1.12 indicates that "the switch shall be configured with redundant supervisor/switching fabric/ Management modules/ Power supplies. All the switch components shall be hot-swappable …." We are considering above only for the Layer-3 switches at stations and OCC. However for distribution level Layer-2 switches, we are providing switches in 1+1 redundant configuration with external redundant SMPS power supplies. Pl. confirm that the same is acceptable.	No change is envisaged in the requirements
662.	Vol-III, Part-2	8	77 of 128	8.1.1 (7) & (8)	Dispatch Telephone System Requirement	The referred clause indicates that the DTS console at WDFCCOCC shall communicate with	1. For connectivity to IR (OCCs) control offices refer to clause 8.1.3 2. DTS telephone connections to

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						DFFCIL HQ, EDFCC OCC and IR OCC. W.r.t the above bidder assumes following. - Necessary leased line connectivity between WDFCC OCC to DFFCIL HQ / EDFCC OCC / IR OCC will be made available by DFCCIL. - DTS handsets are already available and no separate handset is required to be supplied at DFCCIL HQ, IR OCC and EDFCC OCC by STP-5 contractor. Kindly confirm the above.	DFCCIL HQ and OCC /EDFC shall be extended on lines to be arranged by the Employer from the telecom equipment rooms of phase-1closest to the locations of DFCCIL HQ & OCC/EDFC.