

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

Addendum 6 Dated 28.06.2014

Addendum / Amendments to the Bid Documents for

DESIGN, CONSTRUCTION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2x25 kVAC 50 HZ ELECTRIFICATION, SIGNALING & TELECOMMUNICATION AND ASSOCIATED WORKS OF DOUBLE TRACK RAILWAY LINES UNDER CONSTRUCTION ON A DESIGN BUILD LUMP SUM BASIS FOR BHAUPUR – KHURJA SECTION ON EASTERN DEDICATED FREIGHT CORRIDOR

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189.	1	-	25 of 134	27.1	Document comprising the Bid	Add new item ITB 27.1(k) as under: “Guaranteed Maximum Losses for Traction Transformers and Auto Transformers (Form GLT, Bidding Forms Section IV).”
190.	1	-	53 of 134	Section III	Annexure I	Delete item no. 2.1 15) Guaranteed Maximum Losses for Traction Transformers and Auto Transformers (Form GLT, Bidding Forms Section IV).
191.	1	-	96 of 134	Section IV	Price schedule 2.1.1	Add the following as note no. 3: “3. The cost of travel and stay of the trainees shall be borne by the Employer.”
192.	1	-	102 of 134	Price Schedule 2.1.7	Apportionment of Contract Price for Payment of Cost Centre E&M Works	Replace the contents of Table Price Schedule 2.1.7 with the modified attached table for Price Schedule 2.1.7.
193.	1	-	104 of 134	Price Schedule 2.1.8	Apportionment of Contract Price for Payment of Cost Centre SUPPLY OF SPARES AND TOOLS & INSTRUMENTS	Replace the contents of Sub-Clause centre 2.1.8.1(a) Column 4 (Stage Payment) with the following: “Catenary and contact conductors, fittings, jumpers and droppers.”
194.	1	-	107 of	Section IV	Price schedule 2.2.1	Add the following as note no. 3:

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			134			"3. The cost of travel and stay of the trainees shall be borne by the Employer."
195.	1	-	114 of 131	(Sub-clause 14.4, GC)	PRICE SCHEDULE 2.2.5	PRICE SCHEDULE 2.2.5 Apportionment of Contract Price for Payment of Cost Centre (a) Delete "IN OCC" in the 4 th line (b) Delete "inj" in the 1 st column.
196.	1	-	118 of 134	Section IV	Price schedule 2.3	Add the following as note no. 1: "1. The cost of travel and stay of the trainees shall be borne by the Employer."
197.	2	1	89 of 95	6.4.1	Training Requirements	Add the following as Sub Clause 6.4.1 (7): "The cost of travel and stay of the trainees shall be borne by the Employer."
198.	2	1	89 of 95	6.4.2(2)	Training Plan	Add the following in Clause 6.4.2 (2) (h) & (i) "(h) Duration of training for each module. (i) Recommended number of participants in each module."
199.	2	2	12 of 291	3.3.1(a)	SCOPE	Replace the contents of the Clause 3.3.1(a) with the following: "Provisions of Five traction sub-stations for traction power supply to 2x25 kV AT feeding system."
200.	2	2	12 of 291	3.3.1(d)	SCOPE	Replace the contents of the Clause 3.3.1(d) with the following: "Auto-transformers shall be provided at each TSS (if required as per design), SP and SSP."
201.	2	2	15 of 291	3.3.2(j)	Services	Replace the contents of the Clause 3.3.2(j) with the following: "Obtaining statutory clearances and submittal of information asked for by statutory bodies e.g. Government of India, Ministry of Railways, Commissioner

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						of Railway Safety, Electrical Inspector to Govt. of India (EIG) as directed by the Engineer.”
202.	2	2	15 of 291	3.3.2	Services	Add new Clause 3.3.2(n) as under: “GPS mapping of all the OHE masts/portals for entire section; to get X, Y & Z coordinates for each mast location. The mapping data shall be submitted by the Contractor in hard as well as soft copy to the Engineer for approval.”
203.	2	2	23 of 291	4.4.2(6)(a)	Proven Design and Cross Acceptance Criteria	The last sentence of clause 4.4.2(6)(a) to be replaced with the following: “(For circuit breakers and interrupters above 25 kV, 25 kV Feeder wire, AEW, BEW and SCADA System, three years satisfactory performance on power utilities shall also be permitted).”
204.	2	2	32 of 291	5.1.1	General	Add the following at the end of the Clause 5.1.1: “The indicative typical TSS conceptual Schematic Diagram is furnished in reference drawing no. DFC/EC/BH-KH/TSS/TR-02 (Rev. 1) in Part 4.
205.	2	2	35 of 291	5.5.1	Train Operations	Replace the last sentence of the last para with the following: “For Traction Power Simulation consider 50% of the train run with a stoppage at stations, maximum dwell time of 3 minutes and wind speed of 0.5 m/s and Power factor of 0.95. For DN direction, worst case scenario of sequence of trains as per the Train operation plan shall be considered for simulation.”
206.	2	2	39 of 291	6.2.7	Design of the Power Supply System	Replace the contents of Clause 6.2.7 with the following: “Every alternate TSS shall be provided with one spare transformer. At TSS, without spare transformer, the bus-bar shall be configured such that, in future, when the spare transformer is installed along with ancillary equipment, same can be installed with no modification to the TSS layout.”

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207.	2	2	42 of 291	6.5	Table 6.5.1: Design Short Circuit Levels	Delete "Note – The fault level on the 25kV traction system will initially be 6kA but may increase to 12kA at a future date" from below the Table 6.5.1
208.	2	2	68 of 291	8.4 (i)	OHE Conductors	Replace Heading "Min. Size (mm ²)" in column 2 Table No. 8.9-1 with "Min. Nominal Size (mm ²)"
209.	2	2	89 of 291	10.6.2	SCADA System Performance Requirements	Replace the contents of Clause 10.6.2 with the following: "Complete SCADA system with servers, workstations and full communication with all RTUs shall be ready within 15 minutes of a cold restart of complete system. All software shall automatically start up on system restart and system shall be ready for the operator after entering the password."
210.	2	2	89 of 291	10.7	RAMS Requirement	Replace the contents of 1 st para of Clause 10.7 with the following: "The RAMS shall conform to EN 50126 / IEC 62278. The Contractor shall design the SCADA system to meet the RAMS targets specified for the system"
211.	2	2	93 of 291	10.8.1	General	Add new Clause 10.8.1(14) as under: "SCADA software shall be able to carry out concurrent MD calculation and initiate alarm based on the trend of MD before completion of integration period at OCC as per pre-set values, which can be altered by the administrator as per requirement, provision for the same to be made in the software."
212.	2	2	96 of 291	10.10.1(5)	Performance specification for IP-based SCADA software	Replace the contents of Clause 10.10.1(5) with the following: "Only the valid licensed copies (CD/DVD's) of complete SCADA application, commercial and peripheral software shall be supplied. The firewall software shall be valid up to the Defects Notification Period (DNP)."
213.	2	2	103 of 291	10.10.2 (20)	Power Block Identification	Replace the contents of Clause 10.10.2 (20) (a) by the following:

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						“Power Block is given for maintenance by de-energizing the device/section of OHE. When a device/section is under power block, it shall not be possible to operate/charge it, unless the power block is first cancelled from the RCC. In case a tele-command is attempted, a failure message shall be given to the operator.”
214.	2	2	107 of 291	10.10.2. (30) (c)	Overall screen design and real time display	Replace the second sentence of Clause 10.10.2(30) (c) with the following :- “It shall be possible to play different pre-recorded alarms based on criticality of alarm or any other alarm classification.”
215.	2	2	108 of 291	10.10.2 (32) (a)	Safety Tagging	Replace the contents of 2 nd sentence of Clause 10.10.2(32)(a) with the following: “After this tag has been enabled, issuing of command shall not be possible from any other operator or other control rooms until this tag have been, over-ridden by the chief SCADA operator.”
216.	2	2	111 of 291	10.10.2 (38) (a) (vii)	Remote Terminal Unit - General	Replace the contents of Clause 10.10.2 (38) (a) (vii) by the following: “For each traction supply post, the RTU shall be equipped to handle all the I/O points which are required. The I/O points in Table 10.6-1 are indicative and not exhaustive. In addition, the RTU shall include fully configured spare I/O points (minimum 10%), available for the Employer’s use. The RTU for a TSS without any standby transformer should allow addition of standby transformer and associated equipment.”
217.	2	2	113 of 291	10.10.2(39) (a)	RTU Cabinets	Replace the contents of Clause 10.10.2(39) (a) with the following: “The RTU installations shall be dust, rodent and vermin proof with doors. The doors shall have proper rubber gaskets & locking arrangement. The cabinets shall have facility for bottom entry of incoming/outgoing cables for operation of the equipment. The cabinet shall be

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						manufactured from CRCA sheet of minimum thickness of 1.6 mm (door minimum thickness of 2.0 mm) passivized, cured with acceptable quality treatment powder coating and painted so as to make the surfaces rust and scratch proof quality. Suitable reinforcements shall be provided wherever necessary.”
218.	2	2	113 of 291	10.10.2(39) (b)	RTU Cabinets	Replace the contents of Clause 10.10.2(39) (b) with the following: “The RTU shall be floor mounted. The Contractor shall offer as small cabinet as possible without compromising on maintainability and serviceability of the RTU equipment. There shall be only one RTU cabinet housing all equipment. All enclosures for the RTU located in weather proof indoor locations shall be to IP54 as per IEC60529. Enclosures to panels located in outdoor or in open covered locations shall be to IP64. The interior of the panel shall be lit on opening, using a CFL/LED lamp by a door controlled switch.”
219.	2	2	141 of 291	13.2	Contract Spares	Delete the contents of row of S.No. 11 of Table 13.2-1.
220.	2	2	160 of 291	18.1.4(2)	Indicative Interface Matrix with IR	In S. No. 2, Column No. 4 (Column Heading - “Indian Railway”), add the following in the end: “The cost of power block if any shall be borne by DFCCIL.”
221.	2	3	11 of 223	1.5	Scope of Works	Add “, Appendix 2 & 2A ” after “Appendix 1” in 1 st sentence of sub-clause 1.5.1(5)
222.	2	3	15 of 223	2.2.2	Railway Crossings	Add “& Appendix 2 A” after “Appendix 2” in sub-clauses 2.2.2(1) (d) and 2.2.2(1) (i).
223.	2	3	28 of 223	2.2.10	Power Supply	Replace “Vol. 5” by “Vol. 2” in 3 rd line of sub-clause 2.2.10(1).

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224.	2	3	28 of 223	2.2.10	Power Supply	Replace contents of sub-clause 2.2.10(7) with the following: “The IPS provided shall be as per specification RDSO/SPN/165/2012. The UPS provided shall be as per specification placed at Appendix 3. The supply to different Signalling equipment say Electronic Interlocking, Digital Axle Counter, Relays Internal, Relays External, Point Machine, Data logger, VDU, Block panel etc. shall be separate, provided using separate set of additional power supply equipment with minimum N+1 redundancy. The additional power supply equipment shall be in accordance with IRS/RDSO specification (if any)/ relevant international standards.”
225.	2	3	124 of 223	8.4	Training Plan	Add new Clause 8.4.2 as under: “The Training Plan shall include at least 200 man-days of training at manufacturer’s premises and shall cover all equipment, procured locally or from abroad. The Training at site shall be for minimum 400 training Instructor man-days. The cost of travel and stay of the trainees, shall be borne by the Employer.”
226.	2	3	138 of 223	Chapter 10	APPENDICES	Add new Appendix: “Appendix 2A” after “Appendix 2”.
227.	2	4	29 of 171	5.3.3.4	Optical Fibre Cable Network	Replace the contents of Clause 5.3.3.4 with the following: “In addition to SDH Network, Optical Fibres shall also be used for Data Networking System (as stipulated in Chapter-6) and Signalling Systems (as required).”
228.	2	4	29 of 171	5.3.4.3	SDH Network	Delete “Rest Houses” in 4 th Line in Clause 5.3.4.3.
229.	2	4	36 of 171	5.4.2.2	Reliability	Delete the Sub Clause 5.4.2.2(4).
230.	2	4	42 of	6.1.1	Data Networking System	Add “TSSs,” in 4 th line after Stations.

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231.	2	4	42 of 171	6.1.6	Data Networking System	Delete "TSS," in 3 rd line in Clause 6.1.6.
232.	2	4	43 of 171	6.3.1	System Requirements	Replace the contents of Clause 6.3.1 with the following: "WAN shall be created using Layer-3 Switches equipped with minimum 4 Nos. 10GigE Fibre Ports for backbone interconnections. WAN shall connect all stations, IMDs and IMSDs in Ring Topology using Optic Fibre Cable. Further, WAN shall connect TSSs with nearest stations in Redundant Linear Topology using Optic Fibre Cable. Locations of Layer-3 Access Switch can be clubbed based upon design of other systems/subsystems under this contract while meeting overall Packet Data Communication Requirements."
233.	2	4	43 of 171	6.3.4	System Requirements	Delete "TSS," in 6 th line in Clause 6.3.4.
234.	2	4	83 of 171	8.4.3.4	Radio Frequency Coverage	Replace the contents of Clause 8.4.3.4 with the following: "The coverage level for a radio is defined as the minimum field strength of downlink available at 4 meter above ground for atleast 95% of the time over 95% of the area. The Bhaupur-Khurja section of Indian Railway is (being) provided with minimum coverage level of -95 dbm above Railway Track."
235.	2	4	83 of 171	8.4.3.5	Radio Frequency Coverage	Replace the contents of Clause 8.4.3.5 with the following: "The coverage level shall be designed to provide satisfactory indoor and outdoor coverage in detour sections for an operational radio & general purpose radio for all areas as specified, including indoor areas for which an extra margin shall be considered. Accordingly minimum coverage level of -78 dBm in outdoor terrain shall be available."

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236.	2	4	83 of 171	8.4.3.6	Radio Frequency Coverage	Replace the contents of Clause 8.4.3.6 with the following: "The above mentioned signal strength levels are the worst case down-link signal strength levels after taking into account all losses such as propagation losses, feeder losses, fading, climatic losses etc."
237.	2	4	132 of 171	14.10.1	Power Supply Distribution	Replace the contents of Clause 14.10.1 with the following: "Electric Power Supply for Telecom Equipments and Telecom Power Supply Equipments are drawn from Main AC Distribution Boards as covered in Clause 2.2.10 of Particular Specification for Signalling Works."
238.	2	5	11 of 141	Paragraph 1.4 (10)		Delete the existing Para and replace with following: "1.4(10) The scope of works also includes provision of bituminous road as per Drg. No. DFCC/Approach roads, for a length of 8 Kms. The location and length of these roads shall be decided by Engineer. Requisite street lighting complying with the stipulations of lighting should also be provided."
239.	2	5	40 of 141	4.9.7	Acoustic Criteria	Replace the contents of Clause 4.9.7 with the following: "Noise emanating from the equipment / service installations shall be within the permissible limit prescribed in the relevant international standards for each of the equipment. In addition, Central Pollution Control Board of India laid down guidelines shall prevail."
240.	2	5	101 of 141	15.3.4	Air Conditioning & Ventilation at Stations	Replace the contents of Clause 15.3.4(1) with the following: "ASM room, and Signaling and Telecommunication equipment rooms at stations shall have provision of air conditioning with N+1 standby provision on a 24 hour basis."
241.	2	5	123 of 141	Attachment 15.2	TYPICAL FITTINGS TYPE & ILLUMINATION LEVEL AT VARIOUS LOCATIONS	Replace the content of S. No. 10 - Street Lighting, Column No. 3 (Recommended Normal Lux Level at floor level) "40".

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242.	4	-	26	-	POWER SUPPLY SCHEMES AND SCADA LAYOUTS	Insert Item no. 3 – Typical Indicative Layout of Traction sub-station (TSS) 2x25 KV AT Feeding System [Drawing No. DFC/EC/BH-KH/TSS/TR-02 (Rev. 1)]