

Dedicated Freight Corridor Corporation of India Limited
(A Government of India Enterprise)
Addendum No. 5 Dated 06.12.2013
Addendum / Amendments to the Bid Documents for

DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2X25 kV TRACTION POWER SUPPLY SYSTEM, TRACTION SUB-STATIONS, AUXILIARY STATIONS, SWITCHING STATIONS, AUTO TRANSFORMER STATIONS AND SCADA SYSTEM ON DESIGN-BUILD LUMP SUM PRICE BASIS FOR REWARI – MAKARPURA (VADODARA) SECTION OF WESTERN DEDICATED FREIGHT CORRIDOR

ELECTRICAL AND MECHANICAL WORKS CONTRACT

Ref. : ICB No. EM P-4

Sl. No.	Vol. No.	Section No.	Page No.	Clause No.	Item	Addendum / Amendments to the Bid Documents
1.	I	1	28	ITB 11.1 (BDS)	Documents Comprising the Bid	Insert the words “of Technical Bid Only” in between “..... along with two (2) soft copies” and “on CD filling all the details” in the fourth line of ITB 11.1 (BDS).
2.	I	1	33	ITB 20.1 (BDS)	Format and Signing of Bid	In the ITB 20.1(BDS), replace the words “containing all the documents specified in ITB 11.3” with the following “of Technical Bid only”.
3.	I (1/2)	5	152	PC 14.2	Advance Payment	Replace (iv) by the following “On receipt of Letter of Commitment (L/Com) (issued by JICA) by the Employer from designated Japanese Foreign Exchange Bank in Tokyo (Foreign Currency Portion only)”
4.	Vol I (Part 2/2)	6	15	Description of the Cost Centres	Schedule 5: Executive Summary – Payment Schedule Breakup of Contract Price for Payment	In the ‘Schedule 5: Executive Summary – Payment Schedule Break up of Contract Price for Payment’, modify the following description of Cost Centres appearing in the second column of the table: <ol style="list-style-type: none"> 1. Replace the description of Cost Centre at 3.4 with “Stringing of Conductors and Droppering” 2. Replace the description of Cost Centre, against the Item at S.No. 4.1 i.e. “SCADA Works” with “Installation of SCADA at Switching Stations and OCC” 3. Replace the description of Cost Centre, against the Item at S.No. 5 with “System Sectional Test and Commissioning, Training mockups and aids” 4. Replace the description of Cost Centre, against the Item at S.No. 6 with “System Integrated Testing and Commissioning for the Entire Project”

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5.	Vol I (Part 2/2)	6	Page 10 of 26 of Addendum No. 1 And corresponding pages 31, 35 & 36 of Vol I (Part 2/2)	Amendment at Sl. No. 28 of Addendum No. 1 and its respective attachment "Addm1: Attachment-3 (22 sheets)/ Vol. I (2/2)	Schedules - 5.3.4, 5.4 and 5.5 of Attachment Addm 1: Attachment-3 (22 sheets) / Vol I (2/2) of Addendum No. 1	In the Schedules attached as Addm 1: Attachment- 3 (22 sheets)/ Vol I (2/2) of amendment at Sl. No. 28 of Addendum No. 1: 1. In the Schedule 5.3.4: a) Replace item no. 5.3.4.8 of Schedule 5.3.4 by "On Stringing of Conductors and Droppering", 2. In the Schedule 5.4: a) Replace the heading Schedule 5.4 by "Contract Price Weightage for Interim Payments for Installation of SCADA at Switching Stations and OCC" b) In the last payment stage against, Item No. 5.4.7, replace the stage payment description "On Test and Commissioning of SCADA equipment" appearing in fifth column of the table with "On Test and Commissioning of SCADA equipment and system" 3. In the Schedule 5.5: Replace the heading "Schedule 5.5 - Contract Price Weightage for Interim Payments for: System Sectional Test and Commissioning, Training mock-up & aids" with the following: "Schedule 5.5 -Contract Price Weightage for Interim Payments for: System Sectional Test and Commissioning, Training, Mock-up & aids"
6.	I	5	Page No. 2 & 3 of Addendum No. 2 and its corresponding page no. 128 & 147 of Volume I of Bid Document	ATB 8.2 and PC 8.2 Sl. Nos. 7 & 9 of Addm no. 2	Time of Completion	Replace "101 weeks, 162 weeks, 192 weeks, 174 weeks and 204 weeks" appearing in 3 rd column of table and against the Milestones MS1 to MS5, with the "95 weeks, 156 weeks, 188 weeks, 168 weeks and 200 weeks" respectively.

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7.	I	5	Page No. 5 of Addendum 4 and its corresponding page no. 132-136 of the Bid Document	Sl. No. 31 of Addendum No. 4 and its corresponding attachment as: Addm 4: Attachment - 1 (3 sheets / Vol. 1 (½))	Coordination Events & Key Milestones	Replace “101 weeks (707 Days), 162 weeks (1134 Days), 192 weeks (1344 Days), 174 weeks (1218 Days) and 204 weeks (1428 Days)” against the Milestones MS1 to MS5, with the “95 weeks (665 Days) , 156 weeks (1092 Days), 188 weeks (1316 Days), 168 weeks (1176 Days) and 200 weeks (1400 Days)” respectively in the last column of the Table of Coordination Events and Key Milestones.
8.	II	8	69	2.3.7 (3)	Scope of Work	The sub clause no. 2.3.7 (3) may be treated as deleted.
9.	III	9	10	2.5.1	Power Supply for Western Freight Corridor	In the 3 rd line of the clause replace “14 TSS” with “15 TSS” and in the 4 th line replace “two” with “one”.
10.	III	9	17	3.3	Scope	Add the following at the end of the clause “aa) insulating sleeves shall be provided over catenary and feeder wires under all ROB, FOB and Overline structures including bridges. The insulation level of the sleeves shall be of minimum of 54kV”
11.	III	9	49	6.1.5 and Sl. No. 11 of Addm no. 3	Auto Transformer Stations (ATS)	Add “Fault Locator” in the beginning of the sentence to read the sentence as “Fault Locator working on AT Neutral Current Sensing”
12.	III	9	54	6.7 (Table 6.7-1) and Sl. No. 12 of Addm no. 3	Design Short Circuit Level	Replace “3” with “1” in 4 th column, 1 st row of the table for 220 kV system.
13.	III	9	56 S.No.13 of Addm-3 S.No.60 of Addm-1	6.8.2.2	Power Quality	Add at the end of para in Addm-1 “or 100% variable capacitors”
14.	III	9	57	6.10	Protection Scheme	Add one more sub –clause 6.10.6 to read as under: “All the relays employed for the protection of the system shall be numerical type conforming to IEC-61850 and relevant RDSO specification, wherever applicable. The details of the protection system are covered in para 4.2 of Addm. 1 attachment no. 4”

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15.	III	9	74	7.6	25kV Circuit Breakers	Replace "25kV Circuit Breakers" with only "Circuit Breakers"
16.	III	9	75	7.6	25kV Circuit Breakers	Add one more item at the end of the clause "7.6.7 - 25kV Circuit Breakers shall be vaccum type only"
17.	III	9	75	7.7.3	Batteries and Chargers	Replace "400V" with "240V"
18.	III	9	77	7.8	Control Power Cables	Delete "25 ac" from 2 nd column 3 rd row of the table 7.8.9.1
19.	III	9	75	7.13.3	Yard Lighting	Replace "High Pressure Sodium Vapour" with "HID Lamps" Delete the last sentence starting with "the life" and ending with "hours"
20.	III	9	82	8.1.1 d)	Source of Supply	Replace the sub-clause with "d) AT installed for S&T installations shall be monitored with energy meters / appropriate RTU for status of supply through SCADA System in the OCC. Suitable data communication cable shall be provided by the Contractor from nearest OFC Hut/ Signalling Hut"
21.	III	9	83	8.2.4	LV Supply at Stations, Level Crossings and S&T Huts	Replace the clause by "the minimum size of the two core cable shall be 70 sq.mm. for all applications"
22.	III	9	91	9.2.1.12(1) d)	Motive Power Pantograph Characteristic	Working width of the head may be read as "1040 mm." instead of "1040 m".
23.	III	9	100	9.7 (a) & (b)	Cantilever Assemblies	S.No. 46 of Addm-1 is withdrawn/ deleted. Replace the para 9.7 (a) and 9.7 (b) with the following: a) The Cantilever Assembly shall confirm to EN 50119. The Bidder may adopt the Cantilever conforming to RDSO/IR Specification/ Design if it meets the functional requirements of the project. In case the Contractor offers any new Cantilever Assembly design, it should meet the proven design criteria as contained in Para 4.4.2.6. b) The Contractor shall adopt Modular Cantilever System (MCS) on the main line in the section between Sabarmati South (exc.) – Makarpura (inc.) of WDFC. The MCS shall be of Proven Design and meet Cross Acceptance Criteria as listed in para 4.4.2.6. The components of Cantilever Assembly shall be of

Sl. No.	Vol. No.	Section No.	Page No.	Clause No.	Item	Addendum / Amendments to the Bid Documents
						corrosion resistant materials such as Al alloy / Stainless Steel / Cu alloy. It shall be ensured that the components of same Cantilever are interchangeable to have ease of construction, maintenance and better inventory control. The design shall conform to EN 50119. Cantilevers made of fibre shall not be used.
24.	III	9	100	New clause 9.7.1 introduced under Addendum no. 3 at sl. No. 20	Cantilever Assemblies	Delete the words "except first loop" appearing in the last line
25.	III	9	101 & Sl. No. 48 of Addm. 1	9.9.1	Auto Tensioning Devices	Delete the words "can" and "be" appearing in second and third lines of Sl. No. 48 of Addendum no. 1
26.	III	9	104	9.11.4 (c)	Structures / Uprights and the Foundations	The clause may be replaced to read as under: "To ensure provision of safe current collection under adverse conditions, the reverse deflection of masts on top at the time of erection shall be adequate so that it becomes vertical on application of permanent loads and to ensure that under the maximum wind loads, contact wire remains within permissible limits. Torsional deflection under permanent loads shall not exceed 0.1 radian".
27.	III	9	106	9.13.1.3	Insulators	Add "Vandalism prone such as level crossings, foot over bridges and road over bridges" after "at polluted" and before "locations" in 3rd line of the clause. Add " or as described in EN 50119" in the second line after "No. TI/SPC/OHE/INS/0070" and before "shall be provided" Add " or as described in EN 50119" in the fourth line after " No. TI/SPC/(OHE)/INCOM/0070(04/07)" and before "shall be provided"
28.	III	9	109	9.17.2	Return Current connections at AT	Insert a new word "rail" between the words "buried" and "shall" in the third line of the Sub-clause

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29.	III	9	S.No.50 of Addm no. 1 and Page No.121 S.No.36 of Addm-2	Table no. 10.1-1 of Addm no. 1 Footnote	Automatic Fault Locator Auxiliary Transformer	Add "01#" in the 6 th column last row (Automatic Fault Locator) at ATS Add "/appropriate RTU" after "DLMS/COSEM"
30.	III	9	111	10.1.1	General	Delete the portion "and Power Asset Management System" appearing in 4 th and 5 th lines of the clause
31.	III	9	111	10.1.2	Scope of Works	Delete "Asset Management System" appearing in 3 rd and 4 th lines of the clause.
32.	III	9	111	10.1.2 & Sl. No. 34 of Addm no. 2	Scope of Works	Replace the last word "Specification" with "Application"
33.	III	9	119	10.4.3.5	Design service of the works	Delete the portion "Asset Management System" appearing in 2nd line of the clause.
34.	III	9	122 & 123	10.4.9	Asset Management	Delete the entire clause 10.4.9 i.e. "Asset Management including maintenance planning system performance requirements".
35.	III	9	120	10.4.6.3	Traction Power Supply Facilities to be Controlled and Monitored	Replace "77" with "75" in the third bullet point and "5" with "7" in the fourth bullet point.
36.	III	9	124	10.4.11.5	Reliability Requirement	Delete "AMS and maintenance planning system" appearing in the last line of the clause.
37.	III	9	127 and Sl. No. 51 of Addm no. 1	10.4.16.3	Safety Requirement	Delete "SIL 2 shall apply" in the last bullet point and add one more bullet point as follows: "the SCADA System should conform to SIL 2 Standards of Safety and Integrity"
38.	III	9	128 and Sl. No. 39 of Addm no. 2	10.5.1.10	Functional Requirement	Replace the clause and the addendum by "10.5.1.10 – additionally, the SCADA System shall include a data link to a Asset Management System under development by DFCCIL This link shall enable the SCADA System to forward fault information to the Asset Management System from all connected equipment to identify the location and nature of faults".
39.	III	9	129	10.6.1.5 10.6.1.6	Design Criteria and Performance Specification	Delete the clauses.

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40.	III	9	137	10.7.2.13	Breaker Operation Counter	Delete the last two sentences of the clause starting from "If a pre-determined time limit"..... upto "at a pre-determined time each day"
41.	III	9	150 and Sl. No. 42 of Addm no. 2	10.7.3.1	Remote Terminal Unit - General	Replace Sl. No. 42 of Addendum no. 2 by " RTU shall be modular in nature and all I/O cards shall be interchangeable"
42.	III	9	161	10.8.	Functional Interface with Others	Delete the entire clause.
43.	III	9	Sl.No.27 of Addm no. 3 and Sl. No. 52 of Addm no. 1 Sl. No. 2 of B. Sub-station Spares) Page No. 171	13.2.1	Contract Spares	Replace "25kA and 35kA Short Circuit Current rating capacity" with "one each of 35 times and 25 times rated capacity (total 2 nos. of spares)"
44.	III	9	(Sl. No. 5 and 31 of A. OHE Spares) at Sl. No. 52 of Addm no. 1 Sl. No. 7 of B. Sub-station Spares and 25 of D.) Instruments, Test Kits, Tools and Plants	13.2.1	Contract Spares	Add missing Sl. No. 5 as "25kV Cable Termination Kits – 10 nos." Replace the para (Sl.No.31) with: "Engine operated telescopic tree pruner". Delete the word "used in" appearing in 3 rd column at sl. No. 7 from the table. Add "along with essential tools / equipment" in the description of item at Sl. No. 25 i.e. Road Based Maintenance Van for OHE / Power Supply

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45.	III	9	1 of 2 of Attachment of no. 1 of Addm no. 3	Appendix 17.1	Matrix of Interface Requirement	The Sl. No. 4 of item of work may be modified as under:																																																				
<p>Appendix 17.1 MATRIX OF INTERFACE REQUIREMENT FOR SYSTEM DESIGN & CONSTRUCTION OF TRACTION SUPPLY CONTRACT (EM-P-4) & OTHER CONTRACTS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3">S. No.</th> <th rowspan="3">Item of work</th> <th colspan="5">DFCC Contractors</th> <th colspan="5">Independent Authorities</th> <th rowspan="3">Coordinating Contractor/ Agency</th> <th rowspan="3">Remarks</th> </tr> <tr> <th colspan="3">Civil building and Track work</th> <th>Signal & Telecom</th> <th>Loco</th> <th colspan="3">Traction Power Supply</th> <th colspan="2">Indian Railway</th> <th>Other</th> </tr> <tr> <th>CTP-1 & 2</th> <th>CTP-3</th> <th>CTP-3A</th> <th>ST P-5</th> <th>RSP7</th> <th>GEB</th> <th>RSEB</th> <th>HSEB</th> <th>NWR</th> <th>WR</th> <th></th> </tr> </thead> <tbody> <tr> <td>4</td> <td>EMI Mitigation Measures (Earthing & Bonding) : Track, Bridges, viaducts, tunnels, Buried Earth Conductors, Structures, Fencing, continuous metal work) "including Indian Railway Installations"</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Dependent on Site Survey (Pipes, Wires, etc.)</td> <td>EM P-4</td> <td>Refer to Sl. Nos. 1 & 4 of the Addendum no. 3</td> </tr> </tbody> </table>							S. No.	Item of work	DFCC Contractors					Independent Authorities					Coordinating Contractor/ Agency	Remarks	Civil building and Track work			Signal & Telecom	Loco	Traction Power Supply			Indian Railway		Other	CTP-1 & 2	CTP-3	CTP-3A	ST P-5	RSP7	GEB	RSEB	HSEB	NWR	WR		4	EMI Mitigation Measures (Earthing & Bonding) : Track, Bridges, viaducts, tunnels, Buried Earth Conductors, Structures, Fencing, continuous metal work) "including Indian Railway Installations"	✓	✓	✓	✓								Dependent on Site Survey (Pipes, Wires, etc.)	EM P-4	Refer to Sl. Nos. 1 & 4 of the Addendum no. 3
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46.	III	9	248	List of Governing Acts, Regulations and Specifications	Part X	Replace the first item in the List "Indian Electricity Rules- 1953 with latest amendments" with "Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations – 2010".																																																				
47.	III	9	As applicable	As applicable		Delete BCC from the Scope of Work wherever appearing																																																				