Dedicated Freight Corridor Corporation of India Limited

(A Government of India Enterprise)

ADDENDUM NO. 14 Dated 19/03/2018

ADDENDUM /AMENDMENTS TO THE BIDDING DOCUMENT FOR

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

ICB No.: HQ/SYS/EC/D-B/Sahnewal – Pilkhani

Following Amendments are hereby made to the Bidding Document, issued on 08.06.2017 for submission of Stage-1 (Technical Proposal) Bids for 2x25kV, 2x25 kV AC Traction Electrification, Signalling & Telecommunication, E&M and Associated Works (Contract Packages 304), in accordance with ITB 8:

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document
107.	1	-	134 of 1309	ELECTRICAL WORKS – COST CENTRE 2.1	Price Schedule 2.1	**Replace Price Schedule 2.1 with the revised Price Schedule 2.1 attached as Enclosure – 1.**
108.	1	-	137 of 1309	OHE WORKS	Price Schedule 2.1.2	**In the column with the heading "Cost" - "38%" should be replaced by "30%".**
109.	1	-	140 of 1309	TRACTION SUB STATION (TSS) AND RECEIVING SUBSTATION (RSS) WORKS	Price Schedule 2.1.3	**Replace Price Schedule 2.1.3 with the revised Price Schedule 2.1.3 attached as Enclosure – 2.**
110.	1	-	143 of 1309	SECTIONING POST (SP) WORKS	Price Schedule 2.1.4	**In the column with the heading "Cost" - "2.5%" should be replaced by "6%".**
111.	1	-	145 of 1309	SUB SECTIONING POST (SSP) WORKS	Price Schedule 2.1.5	**In the column with the heading "Cost" - "15%" should be replaced by "6%".**

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document
112.	1	-	147 of 1309	SCADA	Price Schedule 2.1.6	**In the column with the heading "Cost" - "1.5%" should be replaced by "3%".**
113.	1	-	149 of 1309	E&M Works	Price Schedule 2.1.7	**In the column with the heading "Cost" - "7%" should be replaced by "4%".**
114.	1	-	152 of 1309	Supply of Spares and Tools & Instruments	Price Schedule 2.1.8	**In the column with the heading "Cost" - "4%" should be replaced by "5%".**
115.	1	-	153 of 1309	Integrated Testing and Commissioning	Price Schedule 2.1.9	**In the column with the heading "Cost" - "4%" should be replaced by "5%".**
116.	2	1	349 of 1309	12.18.3	Operational Safety Case	**Delete sub clause 12.18.3 (4) System Operating Plan.** **Replace the content of subclause 12.18.3 (3) with the following:** "System operating Safety Procedures"
117.	2	1	351 of 1309	12.23	SYSTEM ASSURANCE SUBMISSIONS	**Replace the content of Clause 12.23 SYSTEM ASSURANCE SUBMISSIONS with the following:** **12.23.1 Deliverable Documents** The Contractor shall implement and submit system assurance supporting documents in accordance with the approved System Assurance Plan. The Contractor shall implement and submit system assurance supporting documents in accordance with the approved System Assurance Plan.
118.	2	2	469 of 1309	4.4.2 (5) (a)	Proven Design and Cross acceptance Criteria.	**Replace sub clause 4.4.2 (5) (a) with following:** Three years satisfactory performance on AC traction System from one month prior to date of second stage of Bid opening stage or later. (For Circuit Breakers and Interrupters above 25 kV, 25 kV feeder wire, AEW, BEC, 220/132 kV Power Transformer and SCADA system, three (3) years satisfactory performance on power utilities shall also be permitted.)

<table>
<tr><th>S.N.</th><th>Part No.</th><th>Vol. No.</th><th>Page No.</th><th>Clause No.</th><th>Item</th><th>Amendments in the Bidding Document</th></tr>
<tr><td>119.</td><td>2</td><td>2</td><td>479 of 1309</td><td>5.1.5</td><td>Emergency Feeding Scenario</td><td>Replace the contents of sub clause 5.1.5 (1) with the following:
The TSS could be under outage due to both the incomer feeder outage, the Transformer bay(s) outage, 55 kV/2x25kV Bus bar faulty or all the ATs (where provided) of the TSS are out. The feed is extended from the adjacent healthy TSSs (of both sides) till to the Neutral section of the outage TSS.</td></tr>
<tr><td>120.</td><td>2</td><td>2</td><td>491 of 1309</td><td>6.5</td><td>SHORT CIRCUIT CAPACITY</td><td>6.5 SHORT CIRCUIT CAPACITY
The Contractor shall ensure that traction substation and auxiliary power supply system including cables installed shall be capable of withstanding the Power Supply utilities PGCIL / Indian Railway’s transmission line fault levels at the points of common coupling and downstream with an allowance to cater for possible future increases. The fault levels to be catered for are given in Table-6.5.1 below
Table 6.5.1: Design Short Circuit Levels
<table><tr><th>System Voltage (kV)</th><th>Fault Current in kA</th><th>Fault Duration in Seconds</th></tr><tr><td>220</td><td>40</td><td>1</td></tr><tr><td>132</td><td>30</td><td>1</td></tr><tr><td>25</td><td>12</td><td>3</td></tr></table>Specific requirements (wherever they are different) are furnished in the equipment/sub-system specifications. The Contractor shall carryout the load flow and short circuit study of the 2x25kV distribution network and adopt the short Circuit level as stringent which may be witnessed in any stringent fault Scenario. Nevertheless the Fault level at OHE shall not be taken less than 12kA for calculations. The short circuit apparent power of the system shall be conforming to EN-60076-5 (Table-2).</td></tr>
<tr><td>121.</td><td>2</td><td>2</td><td>494 of 1309</td><td>6.9.8 (b)</td><td></td><td>Clause 6.9.8 (b) should be deleted.</td></tr>
</table>

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<tr><td>122.</td><td>2</td><td>2</td><td>606 of 1309</td><td>14.2</td><td>Reliability</td><td>Replace the content of subclause 14.2 Reliability Requirements (1) with the following:

Reliability requirements and goals shall be developed in terms of Mean Time between Service failures (MTBSAF)/Mean Time Between Failures (MTBF).</td></tr>
<tr><td>123.</td><td>2</td><td>2</td><td>609 of 1309</td><td>14.3</td><td>Availability</td><td>Delete sub clause 14.3 (7)</td></tr>
<tr><td>124.</td><td>2</td><td>2</td><td>620 of 1309</td><td>14.5.13</td><td>System Assurance submissions</td><td>Replace SN 13 of the table with the following:
<table>
<tr><th rowspan="2">SN</th><th rowspan="2">Document Description</th><th colspan="5">Plan Development Stage</th><th rowspan="2">Remarks</th></tr>
<tr><th colspan="2">Design Stage</th><th rowspan="2">Manufacture/Construction/Installation</th><th rowspan="2">Testing /Trial Run Stage</th><th rowspan="2">Warranty Stage</th></tr>
<tr><th>PRELIM</th><th>FINAL</th></tr>
<tr><td>13</td><td>Operational safety Case</td><td>P</td><td></td><td></td><td>U</td><td></td><td>Second report shall be submitted within 28 days after the completion of safety validation test.</td></tr>
</table></td></tr>
<tr><td>125.</td><td>2</td><td>4</td><td>1024 of 1309</td><td>8.2</td><td>Scope of Work, (MTRC)</td><td>Replace sub clause 8.2.5 with following:
The MTRC system provided under this Contract should be interoperable with ongoing EDFC Contracts in line with Clause 8.4.6 of the tender. To achieve this interoperability, the Contractor shall work in close coordination with other contractors to meet the requirement of this tender.</td></tr>
<tr><td>126.</td><td>2</td><td>4</td><td>Chapter-8</td><td>Mobile Train Radio Communication System (MTRC)</td><td>General (MTRC)</td><td>Read “EIRENE FRS v7.3.0 specification and EIRENE SRS v15.3.0 specification” instead of “EIRENE FRS v7.4.0 specification or latest and EIRENE SRS v15.4.0 specification or latest respectively”, in PS Telecom.</td></tr>
</table>

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document
127.	2	4	1038 of 1309	8.4.6	Interoperability Requirements (MTRC)	Add following line at the end of sub clause 8.4.6.1: Bidder shall submit final NOBO certificate at the time of bid submission. The Clause shall be read as "Intelligent Network (IN), Network Sub System (NSS) and Base Station Subsystem (BSS) being provided under this contract shall comply with the inter-operability requirements for mobile equipment (Cab Radio & Hand Portable as per EIRENE specifications) to be supplied under this contract, in use over Indian Railways and to be supplied for other GSM-R networks of DFCCIL. Bidder shall submit final NOBO certificate at the time of bid submission."
128.	2	4	1039 of 1309	8.4.6	Interoperability Requirements (MTRC)	Remove the line "BSS of IR provided at New Delhi & Tundla &" from sub clause 8.4.6.7 The Clause shall be read as "NSS being provided under this contract is desirable to be interoperable with BSS being provided at Allahabad under contract Package CP-104, CP-105 & CP- 203 and being provided at OCC at Ahmedabad under Contract Package STP-5/STP-17/CTP-14."
129.	2	4	1039 of 1309	8.4.6	Interoperability Requirements (MTRC)	Remove sub clause 8.4.6.4 And update the numbering of sub clause 8.4.6.7 as 8.4.6.6.
130.	2	4	1039 of 1309	8.5	Technical Requirements (MTRC)	Remove the word "and Indian Railway" from para 3 of sub clause 8.5.1.1 The Clause shall be read as "The new Mobile Services Switching Sub-System (MSS) being supplied should be a proven design and should be inter operable with existing Radio, Core and IN systems of DFCC. A client certificate of successful working of the design should be provided by the Contractor."
131.	4	-	-	-	Schematic Diagram of 220/132kV Receiving Sub-Station Cum 132/55kV Traction Sub-Station at Jagadhari	Replace the "Drawing no. GC/DFCC/PS/TSS/SCH/TYP/101" with the revised "Drawing no. **GC/DFCC/PS/TSS/SCH/TYP/101 Rev.02**".
132.	2	2	486 of 1309	6.1.4	Sub Sectioning Posts (SSP)	**Replace the contents of clause 6.1.4 (1) with the following:** Double pole circuit breakers for 2x25 AT system with protection relays as required to automatically isolate faulty section/equipment, control relay panel and CTs, PTs.

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document
133.	2	2	486 of 1309	6.1.5	Sectioning Posts (SP)	**Replace the contents of clause 6.1.5 (1) with the following:** Double pole circuit breakers for 2x25 AT system with protection relays as required to automatically isolate faulty section/equipment, control relay panel and CTs, PTs.

Enclosure-1

REVISED PRICE SCHEDULE 2.1
Apportionment of Contract Price for Payment according to cost centres
ELECTRICAL WORKS – COST CENTRE 2.1

(Sub-clause 14.4, GC)

Price Schedule	Price Schedule No.	Cost Centre	Weightage of Cost Centre 2.1 (%)	Cost
(1)	(2)	(3)	(4)	(5)
2.1 [ELECTRICAL WORKS]	2.1.1	Surveys, Investigations, Studies, Design & Documents, O & M Manuals and As Built Drawings, Training of Staff	5	% as applicable for Cost Centre 2.0 of Apportionment of Contract Price
	2.1.2	OHE Works	30	
	2.1.3	Traction Sub Station (TSS) Works	36	
	2.1.4	Sectioning Post (SP) Works	6	
	2.1.5	Sub-Sectioning Post (SSP) Works	6	
	2.1.6	SCADA Works	3	
	2.1.7	E&M Works	4	
	2.1.8	Supply of Contract Spares and Special Tools & Instruments	5	
	2.1.9	Integrated Testing, Commissioning and Final Taking over of Works	5	
		Total	**100%**	

Note: All the Cost Centres and Details of the Scope as indicated above shall be read in conjunction with the Employer's Requirement General Specifications (GS) and Particular Specifications (PS) as applicable.

Enclosure-2

REVISED PRICE SCHEDULE 2.1.3

Apportionment of Contract Price for Payment of Cost Centre

TRACTION SUB STATION (TSS) AND RECEIVING SUBSTATION (RSS) WORKS

(Sub-clause 14.4, GC)

Cost Centre	Item of work	Sub-Cost Centre	Stage Payment (Stage to be completed to qualify for Payment of Sub-Cost Centre)	Weightage (%)	Cost	Payment Procedure
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2.1.3 [Traction Sub Station (TSS) Works]	Supply of Materials	2.1.3.1(a)	Supply of Steel structures and Small Parts Steel (SPS) as required at New Khanna and New Shambhu TSSs	2	36 % of cost centre 2.1 (Apportionment of Contract Price) for Electrical Works	On supply of material at site as per approved quantity duly inspected by the appropriate authority and verified by the Engineer
		2.1.3.1(b)	Supply of Steel structures and Small Parts Steel (SPS) as required at Jagadhari Receiving Substation (RSS).	1		
		2.1.3.2(a)	Supply of Traction Transformers at all TSSs.	30		
		2.1.3.2(b)	Supply of Power Transformers at Jagadhari Receiving Substation.	10		
		2.1.3.3	Supply of Auto Transformers and 25kV/240V Aux. Transformers as required at all TSSs.	10		
		2.1.3.4(a)	Supply of Switchgears and Control gears, Circuit Breaker, interrupters CT, PT isolators etc. as required at New Khanna and New Shambhu TSSs.	6		
		2.1.3.4(b)	Supply of Switchgears and Control gears, Circuit Breaker, interrupters CT, PT isolators etc. as required at Jagadhari Receiving Substation.	4		
		2.1.3.5	Supply of Control and Relay Panels fully assembled at all TSSs and at Jagadhari Receiving Substation.	4		

Cost Centre	Item of work	Sub-Cost Centre	Stage Payment (Stage to be completed to qualify for Payment of Sub-Cost Centre)	Weightage (%)	Cost	Payment Procedure
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		2.1.3.6(a)	Supply of all other balance material including cables, Bus bar, Earthing Material, Lightning Arresters, Battery set, Battery Chargers etc. including Dynamic VAr compensation, power quality control devices as required for commissioning of Power Supply Installations and associated facilities under the scope of Work at New Khanna and New shambhu TSSs.	10		On supply of material at site as per approved quantity duly inspected by the appropriate authority and verified by the Engineer
		2.1.3.6(b)	Supply of all other balance material including cables, Bus bar, Earthing Material, Lightning Arresters, Battery set, Battery Chargers etc as required for commissioning of Receiving Substation including associated facilities under the scope of Work at Jagadhari Receiving Substation.	4		
	Erection	2.1.3.7(a)	Completion of Earthwork, Fencing and foundation work at New Khanna and New shambhu TSSs.	3		Review and Acceptance of Installation Test Report by the Engineer
		2.1.3.7(b)	Completion of Earthwork, Fencing and foundation work at Jagadhari Receiving Substation	2		
		2.1.3.8	Erection of Steel structures and SPS as above all TSSs.	1		
		2.1.3.9	Erection of Traction Transformers at all TSSs and Power Transformers at Jagadhari Receiving Substation.	3		
		2.1.3.10	Erection of Auto Transformers and 25kV/240V Aux. Transformers at all the TSSs.	1		
		2.1.3.11	Erection of Switchgears and Control gears, Circuit Breaker, interrupters and isolators etc. and erection & commissioning of control and relay panel and other protection, control & monitoring equipment and control cabling as required at all TSSs and at Jagadhari Receiving Substation.	1		

Cost Centre	Item of work	Sub-Cost Centre	Stage Payment (Stage to be completed to qualify for Payment of Sub-Cost Centre)	Weightage (%)	Cost	Payment Procedure
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		2.1.3.12	Construction of Control room Building and its E&M works i.e. Building electrification, ventilation, Fire Detection & Alarm System, Access Control System, and switch yard lighting including Trenching, Dewatering & drainage works etc. as defined in PS at all TSSs.	2		
		2.1.3.13	Erection/ Completion of all other indoor/outdoor equipment and balance works including Bus-bars, Earth mat/ Earthing & bonding system, Lightning Protection System, Fire Detection & Suppression, Power Distribution Boards, Cabling, Battery, Battery Chargers, Signage & Safety Equipment etc. as required for commissioning of all TSSs and at Jagadhari Receiving Substation.	2		
	System Acceptance	2.1.3.14	Transformer Oil centrifuging, System Acceptance Testing & commissioning of all TSSs and at Jagadhari Receiving Substation including other Facilities and Energisation.	4		Review and Acceptance of System Acceptance Test Report by the Engineer
			TOTAL	**100%**		

Note:

1. Adjustment to Contract Price pursuant to GCC 13.8 shall be applicable to the payments of Works executed under this Cost Centre / Price Schedule.
2. Payment will be made on Pro-rata completion of each Payment Stage as per Weightage(s) given in this Schedule.
3. Sub-Cost Centre 2.1.3.1 (a), 2.1.3.4 (a), 2.1.3.6 (a) and 2.1.3.7 (a) are related with TSS Work at New Khanna and New Shambhu. The weightage of One TSS work shall be weightage of respective Sub-Cost Centre divided by 2 (two), as number of TSSs are two in these sub cost centers.
4. Sub-Cost Centre 2.1.3.2 (a), 2.1.3.3, 2.1.3.5, 2.1.3.8, 2.1.3.9, 2.1.3.10, 2.1.3.11, 2.1.3.12, 2.1.3.13 and 2.1.3.14 are related with work at all the TSSs. The weightage of One TSS work shall be weightage of respective Sub-Cost Centre divided by 3 (three), as number of TSSs are three.
5. Above Price Schedule includes:-
   - 220/132 kV Receiving Substation cum 132/55 kV Traction Substation at Jagadhari.
   - 220/55 kV Traction Substation at New Khanna and New Shambhu.

6. If as per the design approved by Engineer, there is no Auto Transformer in TSS then, the payment of Sub-cost Centre 2.1.3.3 shall be added in payment against Sub-Cost Centre 2.1.3.6(a) and 2.1.3.6 (b). In this case, the payment against sub cost centre 2.1.3.6 (a) will become (10 + 7) % and the payment against sub cost centre 2.1.3.6 (b) will become (4 + 3) %.

7. If as per the design approved by Engineer, there is no Auto Transformer in TSS then, the payment of Sub-cost Centre 2.1.3.10 shall be added in payment against Sub-Cost Centre 2.1.3.14. In this case, the payment against sub cost centre 2.1.3.14 will become (4 + 1) %.

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