

Dedicated Freight Corridor Corporation of India Limited

(A Government of India Enterprise)

ADDENDUM NO. 10 Dated 05.01.2018

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 (Modified)
79.	2	2	451 of 1309	2.2.1	Power Supply For The Eastern Freight Corridor	Replace the contents of sub clause 2.2.1 with the following:- Power Supply for the Sahnewal – Pilkhani Section shall be obtained from the sources as detailed below:- (a) 220kV Grid sub-station (GSS) of Power Grid Corporation of India Ltd. (PGCIL) to Jagadhari Receiving Cum Traction Substation (TSS) through a 3-phase, double circuit transmission line Network. (b) 220kV Grid sub-station (GSS) of Power Supply Authority to New Shambhu and New Khanna Traction Substations (TSS) through a 3-phase, double circuit transmission line.
80.	2	2	451 of 1309	2.2.4	Power Supply For The Eastern Freight Corridor	Replace the contents of first line of sub clause 2.2.4 with the following:- “The 220 kV power supply shall be suitably stepped down at New Shambhu and New Khanna TSS as follows:”
81.	2	2	456 of 1309	3.3.1 (1) (v)	SCOPE	Replace the contents of sub clause 3.3.1 (1)(v) with the following:- (v) Provision of Traction substations (TSS), Sub Sectioning Posts (SSP) and Sectioning Posts (SP), Switching Stations (SS) and ATS (if any) as described in relevant Chapters of this specification are as under: a. Three (3) Traction Substations (TSS).

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document (Modified)
						<p>i. JAGADHARI TSS</p> <p>Provision of receiving 220 kV, 3 phase double circuit power supply from PGCIL, step down to 132 kV through 150 MVA step-down transformers including 132/2x25 kV traction transformers for feeding 2x25kV AT System. Jagadhari TSS shall also include Gantry for termination of 220 kV incoming feeders (from PGCIL), Gantry for 220 kV out going feeders to be connected with Indian Railways and Gantry for termination of 132 kV transmission line of IR along with associated switchgears and outgoing feeder arrangement as required. Typical indicative TSS arrangement of Jagadhari TSS is enclosed in Part-4 Reference Documents.</p> <p>ii. NEW SHAMBHU TSS</p> <p>Provision of receiving 220 kV, 3 phase double circuit power supply from Power Supply Authority, including main 220/2x25 kV Traction transformer for feeding 2x25kV AT System. The provisions at TSSs shall include the Gantry for termination of feeders of Power Supply Authority as required. Typical indicative arrangement of TSS is enclosed in Part-4 Reference Documents.</p> <p>iii. NEW KHANNA TSS</p> <p>Provision of receiving 220 kV, 3 phase double circuit power supply from Power Supply Authority, including 220/2x25 kV Traction transformer(s) for feeding 2x25kV AT System. The provisions at TSS shall include the Gantry for termination of feeders of Power Supply Authority as required. Typical indicative arrangement of TSS is enclosed in Part-4 Reference Documents;</p> <p>In case of Indian Railway transmission line network shall include associated switchgears along with SCADA interface for operation and control as required for satisfactory operation shall be executed by the Contractor.</p> <p>b. Three (3) Sectioning Posts (SP).</p> <p>c. Five (5) Sub Sectioning Posts (SSP).</p> <p>d. Auto-transformers shall be provided at each TSS (as required as per design), SP, SSP and ATS if any.</p>

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document (Modified)
82.	2	2	465 of 1309	3.3.5 (1) (b)	Items of work excluded from the scope	Replace the contents of sub clause 3.3.5 (1) (b) with the following:- “220 kV Transmission line from PGCIL Grid Substation to Jagadhari TSS and 220 kV Transmission line from Power Supply Authority to New Shambhu and New Khanna TSS.”
83.	2	2	478 of 1309	5.1.2	General	Replace the contents of sub clause 5.1.2 with the following:- For the purpose of Power supply reliability, redundant double circuit 220 kV Power supply has been planned to be received from PGCIL at Jagadhari TSS and from Power Supply Authority at New Shambhu TSS and New Khanna TSS as detailed hereunder: a) The Traction Sub Station (TSS) at Jagadhari shall include three phase double circuits of One 220 kV incoming bays (from PGCIL), One 220 kV out going bays (to Indian Railway) and 132 kV outgoing feeder arrangement for IR: comprising of incomer CBs, Bus coupler Circuit Breakers and outgoing Circuit breakers. In addition to the bays, a set of 220 / 132 kV Power Transformers and 132/2X25 kV Traction Transformers along with associated Switchgears are planned to be installed at Jagadhari TSS. The Jagadhari TSS shall also have provision of 220 kV and 132 kV, 3 phase double circuit including associated switchgears for feeding Indian Railways TSS and IR’s transmission line network with outgoing feeder arrangement respectively. b) The Traction Sub Station (TSS) at New Shambhu shall include 220 kV HV incoming bays: comprising incomer CBs, Bus coupler arrangement and 220/2X25 kV Traction Transformer along with associated Switchgears. The 220kV supply received from Power supply Authority shall be stepped down to feed 2x25 kV AT system. c) The Traction Sub Station (TSS) at New Khanna shall include 220 kV HV incoming bays: comprising incomer CBs, Bus coupler arrangement and a set of 220/2X25 kV Traction Transformers along with associated Switchgears. The 220kV supply received from Power supply Authority shall be stepped down to feed 2x25 kV AT system. d) The indicative typical TSS conceptual Scheme Diagrams of TSSs are attached in Part-4: ‘Reference Documents’.
84.	2	2	478 of 1309	5.1.3	General	Replace the contents of sub clause 5.1.3 with the following:- The alternate TSSs shall be equipped with main transformer and spare traction transformer with adequate spare capacity as under:

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document (Modified)
						<p>(1) Two (2) of the TSSs shall be equipped with Transformers with Spare/ Stand by Capacity and in Numbers as required along with associated switchgears. The TSS shall be able to supply full power even in case of failure of any equipment or a set of Bay Equipment or bay is out of Service or under failure/ Maintenance through other Equipment / bay. In case of availability of any one incomer 220/132 kV supply up to transformer terminals (while other Circuit could be in failure/ maintenance) the TSS shall be able to supply power to OHE through CRISS-CROSS redundancy even if one transformer or one equipment of any bay is failed or under maintenance or not available for use.</p> <p>(2) One (1) of the TSS shall be provided with One Set of Transformer(s)/ equipment in operation sized to continuously supply 100% power / service in 'extended feed' scenario without any compromise in any performance parameter with possible future augmentation as essentially required. Such TSSs shall be constructed with provisions of earmarked space for future Transformer duly finished with trenches, flowing, gravel spreading, RC Foundations for all equipment, earthing, steel structure, cables, bus bar arrangement, terminations and other provisions of required application duty including protection relays in Control Relay Panels to commission the bay(s) in future by just provision of the required Traction Transformer (s), 220/132 kV Circuit Breaker(s), 220/132 kV CT(s), Circuit Breaker (s), CT, connections and relay settings etc. as required later on.</p> <p>(3) Subject to Engineer's approval, the Contractor shall be allowed to do a value addition and can make own layout arrangement within the space allocated without reduction in flexibility available in existing arrangement or any compromise in performance.</p>
85.	2	2	479 of 1309	5.1.4 (2)	Traction Transformer Bays	<p>Add a new para 5.1.4 (2) (b): (b) TSS without any Spare/ standby Transformer i. In case of TSS without any Spare/ standby transformer, the available Transformer(s)/equipment shall be capable to operate continuously to supply 100% Power/ service.</p>
86.	2	2	484 of 1309	6.1.3 (1)	Traction Substations (TSSs)	<p>Replace the contents of first line of sub clause 6.1.3 (1) with the following:- "Power supply for the Sahnewal – Pilkhani section shall be planned from following sources as detailed below:-"</p>
87.	2	2	484 of 1309	6.1.3 (1)	Traction Substations (TSSs)	<p>Replace the contents of 6.1.3 (1) (b) with the following: b) New Shambhu TSS"</p>

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document (Modified)
						Provision of receiving 220 kV, 3 phase double circuit power supply from Power Supply Authority, including 220/2x25 kV Traction transformer for feeding 2x25kV AT System. The provisions at the TSS shall include the Gantry for termination of feeders of Power Supply Authority as required. Typical indicative arrangement of TSS is enclosed in Part-4 Reference Documents;
88.	2	2	484 of 1309	6.1.3 (1)	Traction Substations (TSSs)	Add new sub clause 6.1.3 (1) (c) as under:- c) NEW KHANNA TSS Provision of receiving 220 kV, 3 phase double circuit power supply from Power Supply Authority, including 220/2x25 kV Traction transformers for feeding 2x25kV AT System. The provisions at the TSS shall include the Gantry for termination of feeders of Power Supply Authority as required. Typical indicative arrangement of TSS is enclosed in Part-4 Reference Documents;
89.	2	2	485 of 1309	6.1.3 (4)	Traction Substations (TSSs)	In the last line of the sentence of the sub clause (f), add the word “as applicable”
90.	2	2	485 of 1309	6.1.3 (4)	Traction Substations (TSSs)	In the last line of the sentence of the sub clause (p), add the word “as applicable”
91.	2	2	494 of 1309	6.9.8 (d)		Clause 6.9.8 (d) should be replaced as under: (d) 220 kV and 132 Out going Feeder Protection (in case of Jagadhari TSS) - Over current instantaneous/IDMT - Line Distance Protection
92.	2	2	494 of 1309	6.9.8(e)	PROTECTI ON SCHEME	Replace the 1st sentence of sub clause 6.9.8 (e) with the following:- (e) 220 kV and 132 kV Traction Transformer Protection
93.	2	2	495 of 1309	6.9.8 (h)		Second sub point “Restricted Earth fault (REF)” of the clause 6.9.8 (h) should be deleted.
94.	2	2	501 of 1309	7.1.1	General	Replace the 1st sentence of sub clause 7.1.1 with the following:- Traction Power Supply System Works include following installations: - Three (3) Traction Sub-Stations (TSSs), Three (3) – Sectioning Post (SPs), Five (5) – Sub-Sectioning Posts (SSPs).

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95.	2	2	502 of 1309	7.1.5	List of Proposed TSS,SP,SS P	<p>Replace Table 7.1.1, Table 7.1.2, Table 7.1.3 and add table 7.1.4 with the following:-</p> <p>Table 7.1.1 List of Proposed Traction Substations (TSS)</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Installation Name</th> <th>Approx. DFCC Chainage (in Km)</th> <th>Plot Size (sqm)</th> <th>Spare Transformer(s) requirement</th> <th>Voltage level at point of Supply/ TSS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Jagadhari TSS (includes 220/132kV Substation)</td> <td>24.30</td> <td>160 x 120</td> <td>Yes</td> <td>220 kV</td> </tr> <tr> <td>2</td> <td>New Shambhu TSS</td> <td>83.00</td> <td>85x170</td> <td>No</td> <td>220 kV</td> </tr> <tr> <td>3</td> <td>New Khanna TSS</td> <td>150.10</td> <td>100 x 170</td> <td>Yes</td> <td>220 kV</td> </tr> </tbody> </table> <p>Table 7.1.2 List of Proposed Sectioning Post (SP)</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Installation Name</th> <th>Approx. DFCC Chainage (in Km)</th> <th>Available Plot Size (sqm)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>New Pilkhani SP</td> <td>117.70</td> <td>55mx30m</td> </tr> <tr> <td>2</td> <td>New Dukheri SP</td> <td>54.90</td> <td>55mx30m</td> </tr> <tr> <td>3</td> <td>New Sirhind SP</td> <td>119.30</td> <td>55mx30m</td> </tr> </tbody> </table> <p>Table 7.1.3 List of Proposed Sub Sectioning Posts (SSP) (Mid-Section)</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Installation Name</th> <th>Approx. DFCC Chainage (in Km)</th> <th>Available Plot Size (sqm)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>New Kalanaur SSP</td> <td>9.420</td> <td>55mX25m</td> </tr> <tr> <td>2</td> <td>Mustafabad SSP</td> <td>37.25</td> <td>55mX25m</td> </tr> <tr> <td>3</td> <td>New Ambala City</td> <td>74.50</td> <td>55mX25m</td> </tr> <tr> <td>4</td> <td>New Sarai Banjara SSP</td> <td>100.30</td> <td>55mX25m</td> </tr> <tr> <td>5</td> <td>New Mandi Gobindgarh SSP</td> <td>136.16</td> <td>55mx25m</td> </tr> </tbody> </table>	SN	Installation Name	Approx. DFCC Chainage (in Km)	Plot Size (sqm)	Spare Transformer(s) requirement	Voltage level at point of Supply/ TSS	1	Jagadhari TSS (includes 220/132kV Substation)	24.30	160 x 120	Yes	220 kV	2	New Shambhu TSS	83.00	85x170	No	220 kV	3	New Khanna TSS	150.10	100 x 170	Yes	220 kV	SN	Installation Name	Approx. DFCC Chainage (in Km)	Available Plot Size (sqm)	1	New Pilkhani SP	117.70	55mx30m	2	New Dukheri SP	54.90	55mx30m	3	New Sirhind SP	119.30	55mx30m	SN	Installation Name	Approx. DFCC Chainage (in Km)	Available Plot Size (sqm)	1	New Kalanaur SSP	9.420	55mX25m	2	Mustafabad SSP	37.25	55mX25m	3	New Ambala City	74.50	55mX25m	4	New Sarai Banjara SSP	100.30	55mX25m	5	New Mandi Gobindgarh SSP	136.16	55mx25m
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S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document (Modified)									
						<p align="center">Table 7.1.4 List of Proposed TSS/SP/SSP of adjoining section upto next TSS of CP-305</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Installation Name</th> <th>Approx. DFCC Chainage (in Km)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>New Tapri SP</td> <td>100.00</td> </tr> <tr> <td>2</td> <td>New Talheri TSS</td> <td>83.93</td> </tr> </tbody> </table>	SN	Installation Name	Approx. DFCC Chainage (in Km)	1	New Tapri SP	100.00	2	New Talheri TSS	83.93
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1	New Tapri SP	100.00													
2	New Talheri TSS	83.93													
96.	2	2	526 of 1309	Clause 8.16	Outdoor Steel Parts	<p>Replace the clause 8.16 as under:</p> <p>The zinc coating for steel structures and parts shall be as per RDSO Specification no. ETI/OHE/13 (4/84).</p> <p>The Zinc coating specified in the equipment specification, if any, will also be considered and most stringent Zinc coating out of the two will be applicable as approved by the Engineer.</p> <p>The polluted areas shall be identified as a result of pollution mapping by the contractor and approved by the Engineer, where the zinc coating shall be 1000 g/m². In case of need to use nonstandard SPS at special locations to be fixed to the steel structure, these shall be with clamps to avoid drilling of galvanized mast sections.</p>									
97.	2	2	527 of 1309	Clause 8.18.1	Insulators	<p>Add a new sub clause 8.18.1 (1) (e):</p> <p>(e) For new cantilever assemblies, approved under cross acceptance criteria as per clause 8.10.1, the composite type insulator for cantilever can be proposed for the approval of Engineer, if the same is part of the cantilever assemblies approved under cross acceptance criteria.</p>									
98.	2	2	543 of 1309	Table 10.1.1	Indicative list of equipment to be monitored and controlled at remote locations	Delete third last row of the table with equipment name "CCTV"									
99.	2	2	544 of 1309	Clause 10.7.6	Performance requirements	In the second line of the para, "1 second" should be replaced by "2 second".									

S.N.	Part No.	Vol. No.	Page No.	Clause No.	Item	Amendments in the Bidding Document (Modified)						
100.	2	2	648 of 1309	Table 18.4.5 (Item No. 1)	Interfacing Requirements with CP-305:SCADA System	<p>Replace the Bullet points in item No. 1, under column CP-304:</p> <ul style="list-style-type: none"> • Traction Sub Stations – 3 nos. • Sectioning Posts – 3 nos. • Sub Sectioning Posts – 7 Nos. • LC Gate – 22 nos. for Auxiliary transformers. 						
101.	2	5	1229 of 1309	17.17.7	Internal Equipment	<p>Add a new point 17.17.7 (7):</p> <p>(7) Meter Room</p>						
102.	4	-	20 of 27	Clause no. 1.4 (C)	Lists of Electrification and S&T drawings	<p>Replace row no 2 as below:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 10%;">2(a)</td> <td style="width: 60%;">Schematic diagram of 220/55 kV TSS (With one transformer)</td> <td style="width: 30%;">GC/DFCC/PS/TSS/SCH/TYP/101-2(a) Rev-01</td> </tr> <tr> <td>2(b)</td> <td>Schematic diagram of 220/55 kV TSS (With two transformer)</td> <td>GC/DFCC/PS/TSS/SCH/TYP/101-2(b) Rev-01</td> </tr> </table>	2(a)	Schematic diagram of 220/55 kV TSS (With one transformer)	GC/DFCC/PS/TSS/SCH/TYP/101-2(a) Rev-01	2(b)	Schematic diagram of 220/55 kV TSS (With two transformer)	GC/DFCC/PS/TSS/SCH/TYP/101-2(b) Rev-01
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2(b)	Schematic diagram of 220/55 kV TSS (With two transformer)	GC/DFCC/PS/TSS/SCH/TYP/101-2(b) Rev-01										
103.	4	-	20 of 27	Clause no. 1.4 (C)	Lists of Electrification and S&T drawings	<p>Replace row no 15 as below:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 10%;">15</td> <td style="width: 60%;">Control room at Traction Sub station</td> <td style="width: 30%;">GC/DFCC/TSS/503-B Rev 01</td> </tr> </table>	15	Control room at Traction Sub station	GC/DFCC/TSS/503-B Rev 01			
15	Control room at Traction Sub station	GC/DFCC/TSS/503-B Rev 01										
104.	4	-			General Supply Diagram	<p>Replace Drawing No. “GC/DFCC/PS/GSD/402” with the revised Drawing No. “GC/DFCC/PS/GSD/402 Rev.01”</p>						
105.	4	-			Control Room at TSS	<p>Replace Drawing No. “GC/DFCC/TSS/503-B” with the revised Drawing No. “GC/DFCC/TSS/503-B Rev.01”</p>						
106.	4	-			General arrangement block diagram of traction SCADA	<p>Replace drawing no.: GC/DFCC/TR/SCADA/701 Rev.01” with the revised drawing no. “GC/DFCC/TR/SCADA/701 Rev 02”</p>						

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