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

SYSTEMS WORKS CONTRACT PACKAGE 304

RESPONSES TO PRE-BID QUERIES OF THE BIDDERS

Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
877.	Part 2, Sec-VI, Vol-2, PS, Ch-5, 5.2.2, 481 of 1309 1. 1 x 9000KW / 12000 HP electric locomotive plus 63 BOXN wagons (100 each). 2. All trains shall be fully loaded. 3. A mix of Single Train and Double train in the ration of 15:85 percent shall be considered for both UP & DN directions. 4. Ration of normal to long haul train is 15:85. For 6500 T – 1 train (Normal) For 13000 T – 5 trains (Long haul) 5. Train Stoppage – At alternate Stations for crossing or any other reason etc.	While trying to simulate the operating scenarios it is felt that the following requirements are not feasible to achieve under "Normal" & "N-1 operating" conditions with the current stipulations. a) 15 Min headway Kindly confirm the applicability of Headway in single line section and trains operating on both directions b) Mix of single & double train in ratio of 15:85 (One single train followed by 5 double trains; all trains are fully loaded) for both UP & Down Direction with ration of normal to long haul train projected. Considering the above it is requested to clarify suitably to meet the requirements.	Please refer SN-95 of Amendment no. 10 and SN- 140 of Amendment No. 15.
878.	Part -2 / Section VI / Volume 2 / Particular Specification / Clause 5.2.2 / Page No. 38 of 334 Table 5.2.2: Train Operation Plan	The train operation plan as per the Table suggests that a mix of Single Train and Double train in the ratio of 15:85 percent shall be considered **for both UP & DN directions** with headway of 15 mins. As CP 304 project will be a single line section with absolute block signaling system, only one train can run in one block section. Therefore crossing of trains from each direction will only be possible at stations. Trains getting injected from both UP & DOWN directions will lead to operational conflicts and make the train operation plan unfeasible considering the given boundary conditions.	Train operation plan has already been given. Also please refer amendment No. 15 SN-140. Further details for simulation study, the Contractor shall propose to Engineer for approval during execution stage.

<table>
<tr><th>Sr. No.</th><th>Reference to Bid Document</th><th>Clarification Sought by the Bidders</th><th>DFCCIL Response</th></tr>
<tr><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td></tr>
<tr><td></td><td></td><td>Therefore, for traction simulation purpose during pre-bid as well as during execution stage, we suggest to adopt a simple train operation plan with trains travelling only in one direction (having worst gradient) at a defined headway and stoppage at alternate stations, which will form the basis for determination of ratings and sizing of equipment and conductors.
We request you to modify the tender clause accordingly.</td><td></td></tr>
<tr><td>879.</td><td>Part-2 / Section VI / Volume 2 / Particular Specification / Table 5.2.2 / Page No. 38 of 334

Table 5.3.3 : Train Operation Plan

<table><tr><th>Train Consist</th><th>Headway/ Frequency</th></tr><tr><td>1. 1x9000kW / 12000 HP electric locomotive plus 63 BOXN wagons (100T each).</td><td rowspan="5">Headway 15 Min</td></tr><tr><td>2. All trains shall be fully loaded</td></tr><tr><td>3. A mix of Single Train and Double Train in the ratio of 18:85 percent shall be considered for both UP & DN directions.</td></tr><tr><td>4. Ratio of normal to long haul train is 15:85.
For 6500 T-1 train (Normal)
For 13000 T-5 trains (Long haul)</td></tr><tr><td>5. Train stoppage – At alternate statins for crossing or any other reasons etc.</td></tr></table></td><td>This is further to our earlier query on the train operation plan, informing that it is not feasible to have trains operating from both directions (UP & DOWN) and therefore suggested to adopt a simple train operation plan with trains travelling only in one direction (having worst gradient).
We have conducted an initial simulation Study considering the single direction operation. It was observed that the give train mix of 15 (Single):85 (Double) and 18 min headway are very stringent loading conditions specially in N-1 Scenarios where the TSS extends the feed upto approx. 95 kms. It is to be noted that the given system architecture did not support such heavy loading conditions. The voltage at the far end drops much below acceptable levels resulting in slow down of trains and the simulation were unable to converge/complete.
Therefore, in order to ascertain a workable train operating criteria we evaluated multiple options with reduced train mix & increased headways. Based on our reports, we would like to inform that under N-1 conditions, the only feasible option are
Case 1: A train mix of only Single trains (SSSSSS….) & 22 min headway with Single direction operation.
Case 2: A train mix of two Single trains followed by one double train (SSDSSDSS...) & 22 min headway with Single direction operation.
However, for the above case 2 though the simulation is able to converge, the trains at far end sections slow down much below maximum operating speed of 100 kmph. This slowing down of trains may result in bunching and affect the overall operating</td><td>Please refer SN-95 of Amendment no. 10 and SN- 140 of Amendment No. 15.</td></tr>
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<tr><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td></tr>
<tr><td></td><td></td><td>time table.
We therefore request DFCCIL to make any of the following changes in the Bid requirements:
1. Modify the train operation plan to incorporate workable & feasible criteria which can be simulated and supported by the given sub-station architecture in-line with case 1 above.
2. Remove N-1 criteria with respect to entire sub-station failure as there is redundancy of Transformers at every TSS.
3. Reduce the spacing between TSS.
One of the above changes is required to enable completion of system design.</td><td></td></tr>
<tr><td>880.</td><td>Addendum 10 Serial No. 95

Table 7.1.4 List of Proposed TSS/SP/SSP of adjoining section upto next TSS of CP-305.

<table><tr><td>Sno</td><td>Installation Name</td><td>Approx DFCC Chainage</td></tr><tr><td>1</td><td>New Tapri SP</td><td>100.00</td></tr><tr><td>2</td><td>New Telhri TSS</td><td>83.93</td></tr></table></td><td>New Tapri SP is mentioned in the Addendum but in General Supply Diagram CP-304 R1 is show as SSP. Kindly Clarify</td><td>Refer to Addendum No. 15 SN-143.</td></tr>
<tr><td>881.</td><td>Addendum 10 Serial No. 83

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.</td><td>As mentioned in the Addendum the incoming bay should be comprising of incomer CBs but as per PS-Schematic_New_Sirhind TSS-Model R1 no incomer CBs is shown in the drawing. Kindly clarify?</td><td>Refer to Addendum No. 15, SN-137.</td></tr>
<tr><td>882.</td><td>Drawing attached to the addendum PS-Schematic_New_Sirhind TSS-Model R1</td><td>As per our understanding there is no new Sirhind TSS.</td><td>The Bidder’s understanding is correct. However please refer Addendum No. 15 SN-149 & 150.</td></tr>
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Sr. No.	Reference to Bid Document	Clarification Sought by the Bidders	DFCCIL Response
(1)	(2)	(3)	(4)
883.	Page No. 479 of 1309 Simulation of the DFCCIL Network	Requesting you to kindly provide us the Operating Chart (Operating Mesh) of the train movement for the Same to Carry out simulation for accessing the various rating.	Till date, there is no such DFCCIL operating chart (Operating Mesh) available/prepared for the train movement. The train operation plan has already been communicated to the Bidders. Also please refer Addendum No. 15 SN-140.

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