

Reasoned document for “Development of Electronic Unit Injector (EUI) system for DLW built 16 cylinder EMD 710 G3B locomotives” as per Technical Specification no. TS/ED/2012/65, Rev.-1 of June 2014

S.No.	Name of Document	Clause no.	Before modification	Modified as	Reason
1.	Technical Specification no. TS/ED/2012/65, Rev.1 of June 2014	Clause no. 5, Deliverables	<ol style="list-style-type: none"> <li>1. Electronic Unit Injector (EUI) , 20 no.</li> <li>2. Engine Control Unit ( Hardware &amp; Software), 01 set</li> <li>3. Dc-Dc convertor suitable for 74V DC inputs (if required)*, 01 set</li> <li>4. Wiring harness including cables, connectors clamps, shield, etc. appropriate for the application, 01 set</li> <li>5. Sensors for speed and position, boost air pressure, lube oil pressure, coolant temperature, exhaust gas temperature and crankcase vacuum monitoring with suitable adopters, 02 no. each</li> <li>6. Interfacing units for interfacing of ECU with engine test bed and microprocessor control system of the locomotive, 01 no. each</li> <li>7. Modified inlet and outlet fuel headers, flexible fuel jumpers and all adaptation parts, 01 set</li> <li>8. Additional fuel filters (if required), 01 set</li> </ol>	<ol style="list-style-type: none"> <li>1. ECM-Control box</li> <li>2. Diesel Electronic Injector</li> <li>3. Unit exchange Diesel Electronic Injector</li> <li>4. EUI wire standoff (grabe iron type)</li> <li>5. EUI wire standoff (upright w/rod)</li> <li>6. End plate, block to harness bulkhead connector</li> <li>7. Injector harness with grey connector</li> <li>8. Injector harness with black connector</li> <li>9. Mail sensor-injector harness</li> <li>10. Power harness</li> <li>11. Temperature sensor, Air box and Engine oil</li> <li>12. Pressure sensor engine cooling water</li> <li>13. Oil pressure sensor</li> <li>14. New CCP and TBS housing</li> <li>15. TDC and RPM sensor</li> <li>16. Electronic control module mounting plate for AC cabinet</li> <li>17. Fuel rail bracket (pair) with bolt, lock nut, flat washers, copper washers</li> <li>18. TDC and RPM bracket spacer</li> <li>19. Fuel rail gasket (end side)</li> <li>20. Fuel rail Assy. (left)</li> <li>21. Fuel Rail Assy. (right)</li> <li>22. TDC and RPM sensor mounting bracket</li> <li>23. Orifice for injector return lines</li> <li>24. Orifice for injector</li> </ol>	Detailing of the deliverables has been done as a guiding factor for a normal EUI system for EMD locomotives, however tenderer will have to provide bill of material as per their design.

				<p>supply lines</p> <p>25. Pressure relief valve (installed in outer sight glass)</p> <p>26. Pressure relief valve (installed in inner sight glass)</p> <p>27. Gasket, harness end plate for sealing EMD block</p> <p>28. Fuel rail gasket (block side)</p> <p>29. Wiring harness bulk head connector</p> <p>30. Oil temperature sensor bracket</p> <p>31. Bracket, sensor junction box</p> <p>32. Gasket, oil temperature sensor bracket</p> <p>33. Sensor, junction box Assy.</p> <p>34. Governor drive cover plate</p> <p>35. Governor drive cover plate gasket</p> <p>36. Communication port &amp; bracket Assy.</p> <p>37. Timing pin</p> <p>38. Oil pressure sensor block</p> <p>39. CCP housing gasket</p> <p>40. Sensor mounting adapter</p> <p>(Qty. 01 loco set)</p>	
2.	Technical Specification no. TS/ED/2012/65, Rev.1 of June 2014	Clause no.9	Performance test on locomotive	Performance test on locomotive (field trial)	Done for the purpose of clarity in specification and payment conditions because as per clause 2 of Special commercial conditions, balance 20% payment after successful completion of <i>field trial</i>
3.	Qualifying criteria	Clause no.6	The bidder can participate either individually or as a joint venture. For joint venture, extent rules of IR shall be applicable.	This clause has been removed.	There are no standard guidelines for JV participation in supply tenders. Therefore to avoid complications at TC stage this clause has been omitted. Moreover None of EOI participants stated to participate as JV.

4.	Qualifying criteria	Clause no.6 (earlier clause no.7)	Average Annual financial turnover during last 03 years, ending 31 <sup>st</sup> March of the previous financial year, should be at least USD 2 (two) million or equivalent in any other currency. The firm shall submit following documents in support of the above clause a. Balance sheet for last three years b. Profit and loss account statement for last three years	Annual financial turnover during last 03 years, ending 31 <sup>st</sup> March of the previous financial year, should be at least 02 Lakh USD or equivalent in any other currency. The firm shall submit following documents in support of the above clause a. Audited balance sheet for last three years by chartered accountant or payment certificate/financial statement duly issued by officer of concern department b. Profit and loss account statement for last three years	As discussed with associate finance.
5.	Special commercial conditions	Clause no.2	80 % payment shall be released on receipt of all material in ED Dte. Balance 20 % shall be released on successful installation and commissioning of EUI system on prototype locomotive and successful completion of the field trials.	<b>Payment to foreign supplier:</b> Payment against foreign supplies shall be made through letter of credit. All charges, including the confirmation charges of L.C. levied by foreign banks, shall be borne by the supplier. The standard payment terms subject to recoveries if any, under the liquidated damage clause and general condition of contract will be as under- (a) 80 % of the payment shall be released as applicable in FOB contract against irrevocable L.C. on proof of inspection certificate and shipping documents within 30 days of receipt of shipping documents as specified. (b) Balance 20% payment within 90 days after successful installation and	As per standard IRS conditions

				<p>commissioning of EUI system on prototype locomotive and successful completion of field trial and submission of WBG following warranty performance.</p> <p><b>Payment against indigenous supply:</b> The standard payment terms subject to recoveries if any, under the liquidated damage clause and general condition of contract will be as under-</p> <p>(a) 80% of the payment on proof of inspection certificate and rail/road challan to be made within 30 days of receipt of documents as specified.</p> <p>(b) Balance 20% payment within 90 days successful installation and commissioning of EUI system on prototype locomotive and successful completion of field trial and submission of WBG following warranty performance.</p>	
6.	Special commercial conditions	Clause no. 3.1	All data that is generated as a result of design, development and testing of EUI systems, sub-systems and components shall become the sole property of Indian Railways. The information pertaining to components of EUI supplied by the successful bidder shall	No Transfer of technology is involved in this project. All intellectual property generated while undertaking this project becomes the sole property of Indian Railways. The information pertaining to components of EUI supplied by the successful bidder shall not be	For more clarity as discussed with associate finance.

			not be disclosed by IR without prior approval of the bidder. Information pertaining to components supplied by IR shall not be disclosed to the Third Parties by the successful bidder without preliminary authorization in a written permission of Engine Development Directorate, Research Designs & Standards Organisation.	disclosed by IR without prior approval of the bidder. Information pertaining to components supplied by IR shall not be disclosed to the Third Parties by the successful bidder without preliminary authorization in a written permission of Engine Development Directorate, Research Designs & Standards Organisation.	
7.	Special commercial conditions	Clause no. 4	RDSO shall share necessary documents and drawings with the successful bidder after signing of non-disclosure agreement (NDA)	RDSO shall share necessary documents and drawings with the successful bidder after signing of non-disclosure agreement (NDA), as per Annexure 'A'	Non-Disclosure Agreement (NDA) proforma enclosed for purpose of clarity
8.	Special commercial conditions	Clause no.5	-	<b>Delivery Period:</b> this will be a FOB contract. Delivery period for delivery of material shall be one year from the date of opening of LC which shall be opened within 2 months of issue of purchase order. The time period required for installation and commissioning of EUI system on prototype locomotive (after successful performance testing on engine test bed at ED Dte./RDSO) shall be one year from the date of receipt of material in RDSO.	To avoid any dispute at the time of payment.