

**Reasoned Document**

Reasoned document for the final draft STR No. TI/STR/002 (Revision-4) for Schedule of Technical Requirements for approval of Vendors for the supply of Control & Relay Panels incorporating protective Relays for 25 kV/ 2x25 kV AC Traction System and Auto Transformer Neutral Current Ratio Based Automatic Fault Locator for 2x25 KV AC Traction of Indian Railways

Cl. No.	Description	Comments Received from	RDSO's remark
4.1 (i) (a)	CNC Machines required for process like shearing, punching, cutting and bending etc.	M/s ASHIDA, Thane: CNC Machines required for processes like shearing(cutting), punching, and bending etc. <b>Remark:</b> Shearing machine itself cutting machine. Punching and bending are separate activity.	Comments may not be accepted as this para is related to Control and Relay Panel. It has already been advised in the RDSO letter dated 12.02.2025, addressed to the existing approved vendors of control and relay panel that "comments/suggestions on the requirements of M&P and T&P for manufacturing Control and Relay panel will not be considered".
4.2 (i) (a)	CNC Machines required for process like shearing, punching, cutting and bending etc.	M/s ASHIDA, Thane: CNC Machines required for process like shearing (cutting), punching, and bending etc. <b>Remark:</b> Shearing machine itself cutting machine. Punching and bending are separate activity.	Comments may be accepted as the shearing and cutting are not separate activities. Accordingly, the existing para is revised as given below:  <i>4.2 (i) a. CNC Machines required for processes like shearing (cutting), punching, bending etc.</i>
4.2 (v)	a. Wave soldering machine or automatic/programmable soldering machine. b. Lead tinning bath.	M/s ASHIDA, Thane: c. SMT Automatic & Semi-Automatic Printers, SMT Pick & Place Machines, Reflow Soldering Ovens, PCB Loader & Unloader and Solder Paste Mixer. d. PCB Ultrasonic Cleaning Machines. e. Digital Magnifying Lenses  <b>Remark:</b> Can be added, These machines are essential for Improve the quality PCB assembly.	The comment may be accepted as these M&P are essential for the assembly of electronic components on a bare PCB. Accordingly, the existing para is revised suitably as given below:  <i>4.2(v) a. Wave soldering machine.</i>  <i>b. SMT Automatic &amp; Semi-Automatic Printers, SMT Pick &amp; Place Machines, Reflow Soldering Ovens, PCB Loader &amp; Unloader and Solder Paste Mixer.</i>  <i>c. PCB Ultrasonic Cleaning Machines.</i>  <i>d. Digital Magnifying Lenses.</i>
4.2 iv	a. PC installed with latest genuine licensed	<b>M/s ALIND, Thiruvananthapuram</b> a. PC installed with latest genuine	The comment may be accepted as

	<p>AutoCAD software. b. Colour Printer. c. 3D drafting software like Solid Works. d. PC for software program execution</p>	<p>licensed AutoCAD software b. Colour Printer c. 3D drafting software like Solid Works d. PC for software program execution <b>e. Licenced PCB design software like ORCAD, Allegro etc.</b></p> <p><b>Remark:</b> 'e.' is mandatory for PCB design activity.</p>	<p>this software is essential for PCB design. Accordingly, the existing para is revised as given below:</p> <p><i>4.2 (iv) a. PC installed with the latest genuine licensed AutoCAD software.</i></p> <p><i>b. Colour Printer.</i></p> <p><i>c. 3D drafting software like Solid Works.</i></p> <p><i>d. PC for software program execution.</i></p> <p><i>e. Licensed PCB design software like ORCAD, Allegro etc.</i></p>
5.2 vii	Programmable IC tester	<p><b>M/s ALIND, Thiruvananthapuram</b> Shall be removed</p> <p><b>Remark:</b> This was applicable for Through-hole Logic gate ICs. Now-a-days these conditions/ computations are done with microcontrollers/ processors themselves. So, this requirement may be deleted.</p>	<p>In view of detailed justification given by the firm, the existing para may be deleted.</p>
5.2 xi.	Digital Vernier Callipers, screw gauge, meter scale and digital thermometer.	<p><b>M/s ALIND, Thiruvananthapuram</b> Digital Vernier Callipers, screw gauge and meter scale. This was applicable for Through hole Logic gate ICs, now a days these conditions/ computations are done with microcontrollers/ processors itself. So this requirement may be deleted. Made more clarity on thermometer requirement.</p> <p><b>Multi-channel thermocouple-based thermometer with a minimum of 8 channels</b></p> <p><b>Remark:</b> Made more clarity on thermometer requirements.</p>	<p>The comment may be accepted for measuring the temperature at multiple points simultaneously of the equipment. Accordingly, the existing para is revised as given below:</p> <p><i>5.2 (x) Digital Vernier Callipers, screw gauge, meter scale and multi-channel thermocouple-based thermometer with a minimum of 8 channels.</i></p>