

**Reasoned document for the comments received on Draft of
“Item Specific Guideline for **fabricated** Thick Web Switches, TDG-0038”**

S. No.	Proposed Clause as given in draft Item specific guidelines uploaded on RDSO's website for comments	Comments/ Suggestions by vendors/ stake holders	Changes made in Final Draft as uploaded on RDSO's website with reason for acceptance/ rejection of suggestion
1.	<p>ITEM SPECIFIC GUIDELINES FOR INITIAL APPROVAL/ QUALITY AUDIT OF FIRMS FOR MANUFACTURING 1:8.5, 1:12 & 1:16 FABRICATED THICK WEB CURVED SWITCHES</p> <p>A. In addition to the "ISO Apex Documents of RDSO", the following specific guidelines shall also be applicable for Initial approval / Quality Audit of vendors for manufacturing of 1: 8.5, 1:12 & 1:16 Fabricated Thick Web Curved Switches:</p> <p>i) List of vendors shall be maintained as and when approval is granted to the firm for various designs/ drawings of Thick Web Curved Switches i.e. for 1: 8½, 1:12 & 1:16 by adding respective drawing numbers as per approval granted.</p> <p>ii) For the purpose of approval of vendor for manufacturing of Thick web switches, the vendor shall be required to manufacture prototype of the design for which the firm has to be approved comprising of two sets - one set of left hand and one set of right hand Thick web switch complete. One set of switch shall consist of two thick web tongue rails, two stock rails and all components as per Part List of the respective drawing/design.</p> <p>iii) For the purpose of Quality Audit of the vendor for thick web curved switches, one sample set of switch (either left hand or right hand switch) of the design for which the firm is approved shall be required to be offered for inspection.</p> <p>iv) The firm shall submit inspection gauge drawing for thick web curved switches (TWS) for the design offered for approval to RDSO. In case, Fabricated thick web curved switches are to be manufactured by vendors using thick web asymmetric rails arranged by thick web switch manufacturers, the firm shall submit drawings for End forged thick web asymmetrical (TWA) rail to be used for manufacturing of TWS, inspection gauge drawing for End forged TWA rail also along with application.</p> <p>v) Two sets of inspection gauges each for End forged TWA rail, Thick web switches for the design offered for approval, shall be approved/ revalidated at the time of inspection/ verification of infrastructural facilities during initial approval / quality audit</p>	<p>1. Proposed modification from M/s Veera Techno Trec Pvt. Ltd. Sampla is given as under:</p> <p>i)List of vendors shall be maintained as and when approval is granted to the firm for various designs/ drawings of Fabricated Thick Web Curved Switches i.e. for 1: 8½, 1:12 & 1:16 by adding respective drawing numbers as per approval granted.</p> <p>2. Review by RDSO in reference to letter no. QAC./Vendor/ Policy dt. 17.09.2021.</p>	<p>1. The suggested comments by the vendor/ stake holders are not acceptable as word 'Fabricated' is already pre-fixed in its drawings and is not considered to be added in documents. The word 'curved' is also included in the title in the drawings for Thick web switches. Accordingly, words 'fabricated' and 'curved' are being deleted from the document.</p> <p>2. The document has been reviewed in reference to letter no. QAC./Vendor/ Policy dt. 17.09.2021 and changes have been made in Para A accordingly, as shown below :</p> <p>A. In addition to the "ISO Apex Documents of RDSO", the following specific guidelines shall also be applicable for Initial approval / Quality Audit of vendors for manufacturing of 1:8½, 1:12 & 1:16 Fabricated Thick Web Curved Switches:</p> <p>i) List of vendors shall be maintained as and when approval is granted to the firm for various designs/ drawings of Fabricated Thick Web Curved Switches i.e., for variants 1: 8½, 1:12 & 1:16 by adding respective drawing numbers as per approval granted.</p> <p>ii) For the purpose of approval of vendor for manufacturing of Thick Web Switches, the vendor shall be required to manufacture prototype of Thick Web Switch for any of the design/ drawing (variant) for which the firm has to be approved comprising of two sets - one set of left hand and one set of right hand Thick Web Switch complete. One set of switch shall consist of two thick web tongue rails, two stock rails and all components as per Part List of the respective drawing/design. Prototype approval for the other variants shall be carried out subsequently as and when offered by the firm.</p> <p>iii) For the purpose of Quality Audit of the vendor for thick web curved switches, one sample set of switch (either left hand or right hand switch) of the designs for which the firm is approved shall be required to be offered for inspection.</p> <p>iv) The firm shall submit inspection gauge drawing for thick web curved switches (TWS) for the design offered for approval to RDSO. In case, Fabricated thick web curved switches are to be manufactured by vendors using thick web asymmetric rails arranged by thick web switch manufacturers, the firm shall submit drawings for End forged thick web asymmetrical (TWA) rail to be used for manufacturing of TWS, inspection gauge drawing for End forged TWA rail also along with application.</p>

	<p>of the firm.</p> <p>vi) The inspection gauges and prototype shall be required to be approved by RDSO for each design of fabricated thick web curved switches before approval of firm for “List of vendors for development orders”. The firm shall be upgraded to list of “Approved vendors” after fulfillment of criteria given in apex ISO documents of RDSO.</p> <p>vii) One set layout on PSC sleepers for switch portion for the design offered for approval to RDSO i.e. 1 :8.5, 1:12 & 1:16 turnout along with electrical motor operated Point Machine of 220mm stroke (Capable for checking/inspection of SSD with TWS of 160mm throw at ATS) required for checking/ inspection of TWS as per site conditions.</p>		<p>v) Two sets of inspection gauges each for End forged TWA rail, Thick web switches for the design offered for approval, shall be approved/ revalidated at the time of inspection/ verification of infrastructural facilities during initial approval / quality audit of the firm.</p> <p>vi) The inspection gauges and prototype shall be required to be got approved by RDSO for each design of fabricated thick web curved switches before approval of firm for “List of vendors for development orders”. The firm shall be upgraded to list of “Approved vendors” after fulfillment of criteria given in apex ISO documents of RDSO & Para C. below.</p> <p>vii) One set layout on PSC sleepers for switch portion for the design offered for approval to RDSO i.e. 1 :8.5, 1:12 & 1:16 turnout along with electrical motor operated Point Machine of 220mm stroke (Capable for checking/inspection of SSD with TWS of 160mm throw at ATS) required for checking/ inspection of TWS as per site conditions.</p>
2.	<p>B. In case, Fabricated thick web curved switches are to be manufactured by vendors using thick web asymmetric rails arranged by thick web switch manufacturers, the thick web end forged rails shall be procured by them as per “Qualifying requirements of tenderers for manufacturing and supply of thick web switches with firms own Asymmetrical End Forged Rails” (Annexure-I).</p> <p>First stage inspection of End forged Thick web asymmetrical rails procured by switch manufacturer shall be carried out by inspecting official of RDSO/ nominated inspecting agency at the works of vendors as per inspection regime for end forged thick web Asymmetrical TWA Rails of Zu-1-60/60E1A1 rail profile (Grade 880). After satisfactory inspection of 60Kg (UIC) End forged TWA Rails of Zu-1-60/60E1A1 rail profile (Grade 880), thick web switches shall be required to be manufactured using passed rails and offered for final inspection of RDSO/ nominated inspecting agency as per extant norms.</p>	<p>Review by RDSO in reference to Rly. Bd.’s letter dt. , 21.10.2016 & 25.05.2018 & IRST-12-2009 (latest)</p>	<p>B. In case, Fabricated Thick Web curved Switches are to be manufactured by vendors using their own thick web asymmetric rails arranged by thick web switch manufacturers, the thick web end forged rails shall be procured sourced by them as per “Qualifying requirements of tenderers for manufacturing and supply of Thick Web Switches with firms own Asymmetrical End Forged Rails” (Annexure-I).</p> <p>First stage inspection of End forged Thick web asymmetrical rails procured by switch manufacturer shall be carried out by inspecting official of RDSO/ nominated inspecting agency at the works of vendors as per inspection regime for end forged thick web Asymmetrical TWA Rails of ZU-1-60/60E1A1 rail profile (Grade 880/R260). After satisfactory inspection of 60kg(UIC) End forged TWA Rails of ZU-1-60/60E1A1 rail profile (Grade 880/R260), thick web switches shall be required to be manufactured using passed rails and offered for final inspection of RDSO/ nominated inspecting agency as per extant norms.</p>
3.	<p>C. The firm shall be considered for upgradation from “Vendors for Developmental order” to “Approved vendors” subject to the condition that it has supplied at least 500 Thick web curved switches of that particular design and fulfills the criteria as mentioned in apex ISO documents</p>	<p>Review by RDSO in reference to letter no. QAC./Vendor/ Policy dt. 17.09.2021.</p>	<p>C. The firm shall be considered for upgradation from “Vendors for Developmental order” to “Approved vendors” subject to the condition that it has supplied at least 500 Thick Web Curved Switches of any one variant or collectively for more than one variants, of that particular design and fulfills the criteria as mentioned in extant apex ISO documents.</p>
4.	<p>D. MINIMUM FACILITIES & MACHINERIES REQUIRED FOR MANUFACTURING OF FABRICATED THICK WEB CURVED SWITCHES</p> <p>(Schedule of Technical Requirements)</p>	<p>1. Proposed modification from M/s Rahee Track Technologies Pvt . Ltd., Kolkata :</p>	<p>1. The issue was referred to M&C Dte. for examining & providing comments. M&C Directorate vide letter dated 14.07.2021 suggested that ‘Any method for chemical analysis i.e. Spectrometer/ wet analysis may be kept’. Accordingly, modifications are being made :</p> <p>2. The suggestions of M/s Jekay are not acceptable as every unit should have Spectrometer, Metallurgical Microscope (500X with</p>

SN	Description of requirements	Minimum Capacity	Min. Quantity
1	Gantry Crane facilities	4 T	1 No
2	Circular saw / Circular band saw	900 mm dia.	1 No
3	Hydraulic horizontal bending/straightening machines	350-500T	1 No
4	Radial drill	32 mm dia.	1 No
5	Shapers	600 stroke	3 No
6	a) Planning machines	i) 13.0 m stroke ii) 8.5 m stroke. iii) 5.0 m stroke	1 No. 1 No 1 No
	b) CNC Plano Milling Machine	13.0 m stroke	1 No
7	Compressor with riveting arrangement (Optional)	-	One complete set including furnace & riveting gun etc.
8	CO2 / Mig welding equipment	-	One complete set with approved brand of welding wires.
9	Jigs & fixtures for drilling of stock & tongue rails for Thick	-	At least one set for each design separately

In regard to point No. D.10 (page 4) of Document No. TDG 00038, Rev. '0' for Item Specific Guidelines of Fabricated Thick Web curved switches where chemical lab is indicated in the list of minimum facilities & machineries required for chemical Analysis of MS, Medium & Low alloy steel in the manufacturing process, we would like to inform you that this traditional wet chemical method is labor-intensive, time consuming and also involves human error. Whereas dry lab is precise for testing all composition at once. Spectroscopy is an essential analytical tool in the modern chemical lab and with presence of the same, wet apparatus is not required. So in view of the above, we request you to remove the wet chemical apparatus from the STR.

2. M/s Jekay International Track

Digital recording & printing facilities) & Surface Roughness tester as these are related to routine internal as well as external quality control of raw material, Parts & Finished product pertaining to the unit.

- Now comprehensive document of Item Specific Guidelines for Thick Web Switches & STR are prepared by RDSO based on Qualifying Requirements issued by Railway Board. Therefore, Para 2.0 of Qualifying Requirements at Annexure -1 has been deleted and details of CNC Plano Milling Machine added in STR.

D. MINIMUM FACILITIES & MACHINERIES REQUIRED FOR MANUFACTURING OF **FABRICATED THICK WEB CURVED-SWITCHES**

(Schedule of Technical Requirements)

SN	Description of requirements	Minimum Capacity	Min. Quantity
1	Gantry Crane facilities	4 T	1 No
2	Circular saw / Circular band saw	900 mm dia.	1 No
3	Hydraulic horizontal bending/straightening machines	350-500T	1 No
4	Radial drill	32 mm dia.	1 No
5	Shapers	600 mm stroke	3 No
6	c) Planning machines	i) 13.0 m stroke ii) 8.5 m stroke. iii) 5.0 m stroke	1 No. 1 No 1 No
	d) CNC Plano Milling Machine*	13.0 m stroke	1 No
7	Compressor with riveting arrangement (Optional)	-	One complete set including furnace & riveting gun etc.
8	CO2 / Mig welding equipment	-	One complete set with approved brand of welding wires.
9	Jigs & fixtures for drilling of stock & tongue rails for Thick web switches	-	At least one set for each design separately

		web switches			<p>(P) ltd. has sent their comments as under :</p> <p>"If one Spectrometer, Metallurgical Microscope (500X with Digital recording & printing facilities) & Surface Roughness tester is available with any company, the said instruments should also be allowed to be used in the case of sister concern of the said company, if both companies are located in the same city.</p> <p>3. RDSO review in reference to Rly. Bd's letter dt. 25.05.2018</p> <p>4. Proposed modification from M/s Veera Techno Trec Pvt. Ltd. Sampla is given as under:</p> <p>Shapers:</p> <p>i) Minimum capacity 600mm stroke</p> <p>ii) Minimum Qty.1 No.</p>	10	Chemical lab OR Spectrometer	For Chemical Analysis of MS, Medium & Low alloy steel OR One spectrometer having vacuum emission CCD/PMT with printing facilities should be available for carrying out chemical analysis	1 Unit installed in house for wet chemical analysis OR 1 No. Spectrometer
10	Chemical lab	For Chemical Analysis of MS, Medium & Low alloy steel	1 Unit installed in house for wet chemical analysis			11	i) Universal Testing Machine ii) Charpy impact testing machine	40 T (minimum) -	1 No. 1 No.
11	Spectrometer	One spectrometer having vacuum emission CCD/PMT with printing facilities should be available for carrying out chemical analysis	1 No.			12	Hardness testers a) BHN/Rockwell b) Poldi	BHN hardness tester with ball size 2.5 to 10 mm dia. -	1 No. 1 No.
12	i) Universal Testing Machine ii) Charpy impact testing machine	40 T (minimum) -	1 No. 1 No.			13	Non-destructive testing facilities i) USFD Machine ii) D.P. test Kit iii) Magnaflux (M.P. test Kit) iv) Metallurgical Microscope v) Polishing Machine	Digital type - - 500X with digital recording & printing facilities -	1 No. 1 No. 1 No. 1 No.
13	Hardness testers a) BHN/Rockwell b) Poldi	BHN hardness tester with ball size 2.5 to 10 mm dia. -	1 No. 1 No.			14	Surface Roughness Tester	3 - 7 micron	1 No.
						15	Assembly & Inspection bay	A separate area to be dedicated with proper leveled flooring.	500 sq. meter
						16	Dedicated covered area with all above machineries installed in house properly	-	2000 sq. meter
						<p>* The CNC Plano milling machine shall be installed and shall be in working order at the firm's premises in India to handle thick web and stock rails in the required length (minimum table length of 13m) in</p>			

	14	Non-destructive testing facilities i) USFD Machine ii) D.P. test Kit iii) Magnaflux (M.P. test Kit) iv) Metallurgical Microscope v) Polishing Machine	Digital type - - 500X with digital recording & printing facilities -	1 No. 1 No. 1 No. 1 No. 1 No.		<p>one setup for milling operation along all x, y & z axes without handling/re-handling of rails involved in fabrication of tongue and stock rails. The firm shall furnish complete details of this machine such as performance characteristics, machining length, number of milling heads, make & photographs etc.</p> <p>4. The proposed change in quantity of shapers to 1 no. is not agreed to as the quantity of shapers is given as 3 nos. in STR for OR curved switches also.</p>
	15	Surface Roughness Tester	3 - 7 micron	1 No.		
	16	Assembly & Inspection bay	A separate area to be dedicated with proper leveled flooring.	500 Sq. meter		
	17	Dedicated covered area with all above machineries installed in house properly	-	2000 Sq. meter		
5.	E. PROFORMA FOR TECHNICAL CAPABILITY ASSESSMENT OF FIRMS FOR MANUFACTURE AND SUPPLY OF THICK WEB SWITCHES (To be filled in by the firm in triplicate. Attach extra sheets wherever necessary)			1. Proposed modification from M/s Veera Techno Trec Pvt. Ltd. Sample is given as		

<p>10. Details of important orders executed in the past, in reference to the supplies made:</p> <p>10.1 To other important firms/companies/undertakings</p> <p>10.2 Directly to the Railways</p> <p>SECTION-II:</p> <p><u>TECHNICAL INFORMATION.</u></p> <p>1. Production capacity</p> <p> i) Per month</p> <p> ii) Per year</p> <p>2. Type of stores /items/which firm is capable of manufacturing</p> <p>3. Crane facilities No. Of cranes Make of crane Capacity</p> <p>3.1 EOT Crane/Chain-pully block</p> <p>3.2 Mobile crane</p> <p>3.3 Jib Crane</p> <p>4. Total Power Availability (in KVA/KW)</p> <p> (a) From the State Electricity Board or other regular source (Enclose a copy of current electricity bill)</p> <p> (b) From own stand by generating sets (Also give make, capacity, and other details of each generating set)</p> <p>5. Machines; As per Standard Technical Requirement (STR) given at page 4 & 5 in this document (For manufacturing of Thick web switches and related components).</p> <p>6. Handling facilities: It should be mentioned whether there is proper facilities for handling for finished Thick Web Switches.</p> <p>7 A fully dimensioned plan of the works showing locations of various equipments and facilities for manufacture of</p>	<p>Clause 3.1 be read as :</p> <p>3.1 EOT Crane 3.2 Chain-pully block 3.3 Mobile crane 3.4 Jib Crane</p> <p>Clause 4 be read as :</p> <p>(a) From the State Electricity Board or other regular source (Enclose a copy of current electricity bill)</p> <p>2. By RDSO</p>	<p>The modification suggested is accepted because EOT Crane and Chain – pully block are separate item</p> <p>Clause has been modified as under :</p> <p>3.1 EOT Crane 3.2 Chain-pully block 3.3 Mobile crane 3.4 Jib Crane</p> <p>The suggestion is acceptable, however the word 'current' shall be replaced by word 'latest' in 4(a)</p> <p>Accordingly, para 4 (a) is modified as under :</p> <p>4(a) From the State Electricity Board or other regular source (Enclose a copy of latest electricity bill)</p> <p>2. Sub-clause 5 Corrected as under:</p> <p>"5. Machines; As per Standard Schedule of Technical Requirement (STR) given at page 4 & 5 in this document (For manufacturing of Thick web switches and related components)."</p> <p>7. A fully dimensioned plan of the works showing locations of various equipments and facilities for manufacture of thick web</p>
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	<p>thick web curved switches, flow line indicating locations of various operations during manufacture in proper sequence and storage facilities for finished products and dispatch may please be enclosed.</p>		<p>curved switches, flow line indicating locations of various operations during manufacture in proper sequence and storage facilities for finished products and dispatch may please be enclosed.</p>
<p>6.</p>	<p>QUALITY ASSURANCE:</p> <ol style="list-style-type: none"> 1. Does the factory have any established quality assurance programme as per ISO: 9000 Series. If yes, please enclose a copy of the relevant ISO certificate. 2. Details of Quality Assurance organization. Name of key personnel, their qualification, designations and positions in overall management structure (enclose organizational chart for quality control). 3. Testing facilities and laboratory equipments available to be listed along with the make, year of procurement and commissioning. 4. Calibration of laboratory/ test equipment/ gauges, indicated in Para 3 above.(Enclose a copy of calibration certificates). 5. Frequency of calibration (Yearly/Half yearly). 6. Source of procurement of raw materials/bought out components and steps taken to ensure their quality. 7. Brief details of manufacturing process as relevant to the items/ thick web switch for which registration is sought. 8. Details of inspection/checks done on material during various stages of the above manufacturing process (enclose a copy of QAP). 9. Has the acceptable the value of the parameters inspected during above stage checks been laid down? If yes, the action taken if value of the parameters inspected does not meet the desire laid down value. 10. System for documentations of the results of the above stage checks. 11. Whether one sample set of thick web switch is ready for inspection during reassessment/ quality audit (Report to be submitted by concerned inspecting officials). 12. Whether the firm is possessing officially issued prints of relevant drawings and specifications. 	<p>Proposed modification from M/s Veera Techno Trec Pvt. Ltd. Sampla is given as under</p> <ol style="list-style-type: none"> 4. Calibration of laboratory/ test equipment/ gauges, (Enclose a copy of calibration certificates). 	<p>The suggestion is acceptable as Para 3 does not pertain to laboratory/ test equipment/ gauges. Accordingly, para 4 is modified as under :</p> <ol style="list-style-type: none"> 4. Calibration of laboratory/ test equipment/ gauges, indicated in Para 3 above. (Enclose a copy of calibration certificates).

<p>7</p>	<p>SECTION – III : DECLARATION</p> <p>2. We do hereby declare that the above particulars are correct and no discrepancy shall be found during actual investigation before and during execution of order on our firm.</p> <p>3. Any change in the plant and machinery and change of place of office and of Works site shall be brought to the notice of RDSO for clearance and approval.</p> <p>4. We also declare that our concern has not been black listed by a Zonal Railway or Railway Board or RDSO for business with the Railways.</p> <p>5. We hereby undertake that all our equipments for manufacture and testing as listed above shall be maintained in good working order at all time.</p> <p>Signature of Inspecting Engineer Signature of Firm's Rep. with stamp</p>	<p>Proposed modification from M/s Veera Techno Trec Pvt. Ltd. Sampla is given as under</p> <p>4. We hereby undertake that all our equipments for manufacturing and testing as listed above shall be maintained in good working order at all time</p>	<p>The suggestion is acceptable Accordingly, para 4 is modified as under:</p> <p>4. We hereby undertake that all our equipments for manufacturing and testing as listed above shall be maintained in good working order at all time</p>												
<p>8</p>	<p style="text-align: right;">Annexure-1</p> <p>QUALIFYING REQUIREMENTS OF TENDERERS FOR MANUFACTURING AND SUPPLY OF THICK WEB SWITCHES WITH FIRM'S OWN ASYMMETRICAL END FORGED RAILS</p> <p>1.0 The tenderer must be RDSO approved firm for following types/drawings of over-riding switches on the date of opening of tender:</p> <table border="1" data-bbox="256 971 877 1356"> <thead> <tr> <th>Type & Drawing No. of Thick Web Switch</th> <th>Firm needs to be approved in vendor list of RDSO for following type/drawing of over-riding switch</th> </tr> </thead> <tbody> <tr> <td>60Kg 1 in 12 (RDSO/T-6155)</td> <td>60Kg 1 in 12 (RDSO/T- 4219)</td> </tr> <tr> <td>60Kg 1 in 16 (RDSO/T-7076)</td> <td>60Kg 1 in 12 (RDSO/T-4219) 60Kg 1 in 16 (RDSO/T-5692)</td> </tr> <tr> <td>60Kg 1 in 8.5 (RDSO/T-6280)</td> <td>60Kg 1 in 8.5 (RDSO/T-4966)</td> </tr> </tbody> </table> <p>Eligibility of tenderer for participating in the tender will be considered only for that particular category (type/drawing) in which he is approved in Vendor List of RDSO.</p> <p>2.0 The tenderer must have at least one CNC Plano milling</p>	Type & Drawing No. of Thick Web Switch	Firm needs to be approved in vendor list of RDSO for following type/drawing of over-riding switch	60Kg 1 in 12 (RDSO/T-6155)	60Kg 1 in 12 (RDSO/T- 4219)	60Kg 1 in 16 (RDSO/T-7076)	60Kg 1 in 12 (RDSO/T-4219) 60Kg 1 in 16 (RDSO/T-5692)	60Kg 1 in 8.5 (RDSO/T-6280)	60Kg 1 in 8.5 (RDSO/T-4966)	<p>1. Review by RDSO in reference to Rly. Bd.'s letter dt. , 21.10.2016 & 25.05.2018 & IRST-12-2009 (latest)</p>	<p>i) Now Item Specific Guidelines for Thick Web switches & STR are prepared by RDSO. Therefore Para 1.0 & 2.0 has been deleted and remaining para renumbered.</p> <p>ii) In para 3.0 (a) & (b) " i.e. from 01.01.2011" has been deleted as the current year.</p> <p>iii) As per IRST-12, The 60kg (UIC) rail section has been changed to 60 E1 rail section and ZU-1-60 rail section has been changed to 60E1A1 rail section. Accordingly, changes have been made.</p> <p>The revised Annexure-1 is given as under:</p> <p style="text-align: right;">Annexure-1</p> <p>QUALIFYING REQUIREMENTS OF TENDERERS FOR MANUFACTURING AND SUPPLY OF THICK WEB SWITCHES WITH FIRM'S OWN ASYMMETRICAL END FORGED RAILS</p> <p>1.0 The tenderer must be RDSO approved firm for following types/drawings of over-riding switches on the date of opening of tender:</p> <table border="1" data-bbox="1239 1253 1942 1518"> <thead> <tr> <th>Type & Drawing No. of Thick Web Switch</th> <th>Firm needs to be approved in vendor list of RDSO for following type/drawing of over-riding switch</th> </tr> </thead> <tbody> <tr> <td>60Kg 1 in 12 (RDSO/T- 6155)</td> <td>60Kg 1 in 12 (RDSO/T- 4219)</td> </tr> </tbody> </table>	Type & Drawing No. of Thick Web Switch	Firm needs to be approved in vendor list of RDSO for following type/drawing of over-riding switch	60Kg 1 in 12 (RDSO/T- 6155)	60Kg 1 in 12 (RDSO/T- 4219)
Type & Drawing No. of Thick Web Switch	Firm needs to be approved in vendor list of RDSO for following type/drawing of over-riding switch														
60Kg 1 in 12 (RDSO/T-6155)	60Kg 1 in 12 (RDSO/T- 4219)														
60Kg 1 in 16 (RDSO/T-7076)	60Kg 1 in 12 (RDSO/T-4219) 60Kg 1 in 16 (RDSO/T-5692)														
60Kg 1 in 8.5 (RDSO/T-6280)	60Kg 1 in 8.5 (RDSO/T-4966)														
Type & Drawing No. of Thick Web Switch	Firm needs to be approved in vendor list of RDSO for following type/drawing of over-riding switch														
60Kg 1 in 12 (RDSO/T- 6155)	60Kg 1 in 12 (RDSO/T- 4219)														

machine installed and in working order at its premises in India to handle thick web and stock rails in the required length (minimum table length of 13m) in one setup for milling operation along all x, y & z axes without handling/re-handling of rails involved in fabrication of tongue and stock rails. Tenderer should furnish complete details of this machine such as performance characteristics, machining length, number of milling heads, make & photographs etc., along with his offer.

3.0 Asymmetrical rail of ZU-1-60 Rail profile shall be sourced from rail manufacturer(s):

(a) Who have supplied asymmetrical rails as per IRS-T-12 / 2009 as amended from time to time, during last 7 (seven) years and current year i.e. from 01.01.2011 upto the date of tender opening for use in thick web switches on Indian Railways or KRCL or RVNL or any state/Central Government owned Metro Railways in India. Certificate from user Railways Network about satisfactory performance of asymmetrical rails supplied in this regards should be submitted by the tenderer.

Or

(b) If manufacturing facilities of Asymmetrical Rails are not located in India, then Rail manufacturer should have supplied 60 Kg rails in India as per IRS-T-12 / 2009 as amended from time to time during last 7 (seven) years and current year i.e. from 01.01.2011 up to the date of tender opening and theses rails should have been used on Indian Railways or KRCL or RVNL or any State/Central Government owned Metro Railways in India; AND should have supplied asymmetrical rails, during last 7 (seven) years and current year i.e. from 01.01.2011 up to the date of tender opening, for fabrication of thick web switches to/ for passenger/ mixed traffic carrying Railways networks in minimum 3 (Three) countries and which should have been used on such railway networks. Certificates from the user Railway networks of these countries about satisfactory performance of Thick Web Switches manufactured from these rails should be submitted by the tenderer.

4.0 The tenderer should have facilities with them or Memorandum of understanding (MoU) valid on date of tender opening with agency having facilities for end forging of asymmetrical rail of ZU-1-60 profile into 60Kg UIC rail section conforming to Indian Railways specification for supply of end forged Asymmetrical rail of ZU-1-60 rail profile for manufacturing tongue rail. The tenderer shall submit a certificate of having facilities of End

60Kg 1 in 16 (RDSO/T-7076)	60Kg 1 in 12 (RDSO/T-4219)& 60Kg 1 in 16 (RDSO/T-5692)
60Kg 1 in 8.5 (RDSO/T-6280)	60Kg 1 in 8.5 (RDSO/T-4966)

~~Eligibility of tenderer for participating in the tender will be considered only for that particular category (type/drawing) in which he is approved in Vendor List of RDSO.~~

~~**2.0** The tenderer must have at least one CNC Plane milling machine installed and in working order at its premises in India to handle thick web and stock rails in the required length (minimum table length of 13m) in one setup for milling operation along all x, y & z axes without handling/re-handling of rails involved in fabrication of tongue and stock rails. Tenderer should furnish complete details of this machine such as performance characteristics, machining length, number of milling heads, make & photographs etc., along with his offer.~~

1.0 Asymmetrical rail of ZU-1-60/60E1A1 Rail profile shall be sourced from rail manufacturer(s):

(a) Who have supplied asymmetrical rails as per IRS-T-12 / 2009 as amended from time to time, during last 7 (seven) years and current year ~~i.e. from 01.01.2011~~ upto the date of tender opening for use in thick web switches on Indian Railways or KRCL or RVNL or any state/Central Government owned Metro Railways in India. Certificate from user Railways Network about satisfactory performance of asymmetrical rails supplied in this regards should be submitted by the tenderer.

OR

(b) If manufacturing facilities of Asymmetrical Rails are not located in India, then Rail manufacturer should have supplied 60 kg rails in India as per IRS-T-12 / 2009 ~~(as amended from time to time)~~ during last 7 (seven) years and current year ~~i.e. from 01.01.2011~~ up to the date of tender opening and theses rails should have been used on Indian Railways or KRCL or RVNL or any State/Central Government owned Metro Railways in India; AND should have supplied asymmetrical rails, during last 7 (seven) years and current year ~~i.e. from~~

	<p>Forging of Asymmetrical Rails of ZU-1-60 profile in to 60Kg Rails or submit MoU mentioned above with supporting documents.</p>		<p>01.01.2011 up to the date of tender opening, for fabrication of thick web switches to/ for passenger/ mixed traffic carrying Railway networks in minimum 3 (Three) countries and which should have been used on such railway networks. Certificates from the user Railway networks of these countries about satisfactory performance of Thick Web Switches manufactured from these rails should be submitted by the tenderer.</p> <p>2.0 The tenderer should have facilities with them or Memorandum of understanding (MoU) valid on date of tender opening, with the agency having facilities for end forging of asymmetrical rail of ZU-1-60/60E1A1 profile into 60kg UIC/60E1 rail section conforming to Indian Railways specification for supply of end forged Asymmetrical rail of ZU-1-60/60E1A1 rail profile for manufacturing tongue rail. The tenderer shall submit a certificate of having facilities of End Forging of Asymmetrical Rails of ZU-1-60/60E1A1 profile in to 60kg/60E1 Rails or shall submit a MoU mentioned above with supporting documents.</p>
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