Reasoned Document for Item Specific Guidelines & Schedule of Technical Requirements for manufacture of Fabricated Curved Switches:

S	Provisions of Existing Document	Provisions of Document uploaded on RDSO's			•	Comments of stakeholders	RDSO's remark & change in	
N		website for comments of stakeholders					specification	
1	Document No. : TDG 0018, 0019 & 0020 Rev. '0'	Document No. : QC-G-7.1-18 TDG 0018 (Version 1.0)			TDG 0018 (Version 1.0)	No comments received.	Document No. : TDG 0018 (Version 1.0) is renamed as "Document No. : TDG 0018" as version detail are already mentioned on header of this document.	
2	Document Title: Item Specific Guidelines for manufacture of Fabricated Curved Switches and Fabricated Crossings	Document Title: Item Specific Guidelines & Schedule of Te for manufacture of Fabricated Curved Sw Crossings			•	M/s Veera Technotrec Pvt. Ltd., Rohtak Item Specific Guidelines & Schedule of Technical Requirements for manufacture of Fabricated Curved Switches	Comment of M/s Veera Technotrec Pvt. Ltd., Rohtak is acceptable as the item Fabricated Crossings is decontrolled. The specification title is changed to "Item Specific Guidelines & Schedule of Technical Requirements for manufacture of Fabricated Curved Switches and Fabricated Crossings,"	
3	-	1.0	Amendme	nent History:		M/s Veera Technotrec Pvt. Ltd., Rohtak	<u>For SN 3</u> :-	
		S. No.	Amend- ment Date	t sion e Versi	ment sion	Reason for Amendment	For SN 3:- 1:20 should also be added.	Comment of M/s Veera Technotrec Pvt. Ltd., Rohtak' is acceptable & 1:20 is added accordingly.
		1.	01.12.2001	0.0	First Issue under new documentation system	For SN 4:-	The Para revised as	
			00.00.2023	1.0	1. In Para-3 (i.e. Scope of Application) 'Initial capability assessment' is changed to 'Fresh vendor registration', a word 'approved list of vendor' is modified from 'approved list' and the line 'The competent authority wherever referred to in this document shall mean Executive Director, Quality Assurance Civil Dte'., is deleted 2. Table-8 (i.e. Responsibility and Authority) and Table-9 (i.e. Abbreviations) are revised. 3. 1:16 is added in addition	Planning Machines can be replaced with Plano Milling Machine in phased manner. CNC Plano Milling machine can be 'optional'.	"3. 1:20 & 1:16 is added in addition 1:12 & 1:8½ Fabricated Curve Switch in the heading, ITEM SPECIFIC GUIDELINES FOR ASSESSMENT / QUALITY AUDIT OF FIRMS MANUFACTURING and Para -1 , Para-2, Para-5 under thereof." For SN 4:-	

	1:12 & 1:8½ Fabricated Curve Switch in the heading, ITEM SPECIFIC GUIDELINES FOR ASSESSMENT / QUALITY AUDIT OF FIRMS MANUFACTURING, and Para -1 , Para-2, Para-5 under thereof 4. Planning Machine requirement to be replaced with CNC Plano Milling Machine (i.e. 'Optional' in phased manner). 5. Electronic dimensional measurements with auto recording facility is added in this document at Minimum Facilities & Machineries required. 6. New Para added in Item Specific Guidelines for minimum quantity for up gradation of the firm from developmental vendor to Approved vendor 7. New Para added in Section —III: Declaration		Comment of M/s Veera Technotrec Pvt. Ltd., Rohtak is not acceptable as the function of Planning Machines is different with Plano Milling Machine in required for formation of relief planning in the Fabricated Curved Switches.
4	 2.0 Purpose: This guideline covers all technical requirement for manufacture and supply of Fabricated Curved Switch and Fabricated Crossings used for Initial capability assessment / Fresh vendor registration / Quality Audit of Vendor. These guidelines replaces the provisions of earlier guidelines issued on the subject i.e., QC-G-7.1-14 rev '0' TDG 0018, 0019 & 0020 Rev. '0'.	No comments received.	Item Fabricated Crossings is decontrolled therefore Fabricated Crossings is deleted. The Para revised as "2.0 Purpose:
			This guideline covers all technical requirements for manufacture and supply of Fabricated Curved Switch and Fabricated Crossings used for Initial capability assessment / Fresh vendor registration / Quality Audit of Vendor. These

									guidelines replaces the provisions of earlier guidelines issued on the subject TDG 0018,
5 .	 wendo maint betwee and the The co shall	shall be a or registration of the caining the pen the pen that in this ompeten	ation, Qualit eir approver rocedure / p s 'Item Spec t authority v recutive Dire	or Initial cy Audit, d Vendo orovision cific Guid wherever	Up-grada r list. In o given in t lelines', th r referred	ation of Nase of a case of a che work ne later s to in th	nent / Fresh Vendors and ny variation instructions shall prevail. is document al Executive		0019 & 0020 Rev. '0'". No change
6	 4.0	Pro	cedure / De cedure / det		annexed.			No comments received.	No change
7	 5.0		erred Docun	nent:				No comments received.	No change
-	<u>S. No</u> 1.	Indian Specification Specification and Crossian Specification Crossian Specification S	Documen Railway Stan Railwa cation IRS: T Railwa cation for Fa ossings, Weld gs and St SEJ)	idard 10-2000 ay bricated ded/Hea	Standard Switches t Treated	IRS: 1	Ment No. NIL T-10-2023 st revision)		
8	 6.0	Ref No	erred Docum	nents of	External	Origin:		No comments received.	No change
9	 7.0	Ass No	ociated Reco	ords:				No comments received.	No change
10.	Come doct		lity and Aut Responsib le ED/Track Design-II/ Director/T rack Design-III DD/AIE/A DE ED/Track Design-II/ Director/T rack Design-II/ Director/T rack Design-III		DD/AI DD/AI E/ ADE	Consul ted M&C Dte.	All vendors / concerned through website - All vendors / concerned through website through website	No comments received.	No change

11.		9.0 Abbreviations:		No comments received.	No change
		PED/ Infra-I	Principal Executive Director/ Infrastructure-		
		FD/ Track Design	I. Executive Director/ Track Design-II		
		ED/ Track Design-	Executive Directory Track Design-II		
		RDSO	Research Designs & Standards Organisation		
		M&C Dte.	Metallurgical & Chemical Directorate		
		DD	Deputy Director		
		AIE	Assistant Inspecting Engineer		
10	Harris Constitution of the Assessment December 1	ADE	Assistant Design Engineer	No construction of the second	Northean
12.	Item Specific Guidelines for Assessment/Reassessment of		delines for Assessment Initial capability	No comments received.	No change
	firms manufacturing 1:12, 1:8.5 Fabricated Curved Switches & Fabricated Crossing		vendor registration, Quality Audit of firms facturing of 1:20, 1:16, 1:12 and 1:8.5		
	Switches & Fabricated Crossing		witches & Fabricated Crossing		
		rabilicateu cui veu s	witches & Fabricated Crossing		
		In addition to the "	ISO Apex document (latest version) of RDSO"		
	In addition to the "General Guidelines for Vendor Approval", the following shall also be applicable for		ific guidelines shall also be applicable for		
	assessment / re-assessment of firms for manufacturing		essment Initial capability assessment /		
	1:12 and 1:8.5 Fabricated curved switches and	_	ration, Quality Audit of firms vendors for		
	Fabricated crossings:	switches and Fabric	0, 1:16, 1:12 and 1:8.5 Fabricated curved		
	i) Separate list shall be maintained for 1:12 Fabricated		hall be maintained for 1:12 Fabricated		
	curved switches, 1:8½ Fabricated curved switches and fabricated crossings.		es, 1:8 ½ and 1:16 Fabricated curved		
	ii) For the purpose of assessment of switches, the firm		abricated crossings. Vendor list shall be		
	vendor shall be required to manufacture proto-		variants of 1:20, 1:16, 1:12 and 1:8.5		
	type of the design for which the firm has to be	Fabricated curv	ed switches. e of assessment fresh approval of vendor		
	approved comprising of two sets - one set of left		ring of Fabricated curved switches, the		
	hand and one set of right-hand switch complete.		all be required to manufacture Prototype		
	One set of switch shall consist of two tongue rails, two stock rails and all components as per Part List	sets of Fabricate	d curved switches for any of the design/ drawing		
	of the respective drawing.		sing of two sets-one set of left hand and		
	iii) For the purpose of assessment of fabricated		right-hand Fabricated curved switch set of switches shall consist of two		
	crossings, one set of proto-type of any design shall		vo stock rails and all components as per		
	be required to be manufactured. iv) For the purpose of assessment of the firm for	_	respective drawing. Prototype approval for		
	switches, one sample set of switch (either left hand		ts shall be carried out subsequently as and		
	or right hand switch) of the design for which the	when offered by			
	firm is approved shall be required to be offered for		e of assessment of fabricated crossings, o-type of any design shall be required to		
	inspection. In case, the firm is approved in both the	be manufacture			
	lists i.e. for 1:12 curved switches, 1:8½ curved switches, the sample set of one design can be		e of assessment Quality Audit of the firm		
	offered for inspection.		ricated curved switches, one sample set		
	v) For the purpose of re-assessment of fabricated		curved switch (either left hand or right		
	crossings, one sample set of any design will be	1	any design/ drawing (variant) the design firm is approved shall be required to be		
	required to be offered for inspection.		section. In case, the firm is approved in		
	vi) The gauges shall be approved / revalidated at the time of inspection of infrastructural facilities during		e., for 1:12 curved switches, 1:8 ½ curved		
	assessment/ reassessment of the firm.		16 curved switches the sample set of one		
	vii) The inspection gauges and proto-type shall be	_	offered for inspection, provided vendor is		
	required to be approved by RDSO for each design	approved for the			
	of Switches / Crossings on order before regular	3) roi the pur	pose of re-assessment of fabricated		

	nı	roduction.			T	cre	essings, one sample	set of any des	ign will be required			
							be offered for insp	•				
					6)	6) The gauges shall be approved / revalidated at the time						
							•		facilities during			
									ndor registration /			
					7	Quality audit of the firm. 7) The inspection gauges and Prototype sets shall be						
					1''				for each design of			
							itches/ Crossings or	•	•			
					8)				om "Developmental			
									minimum quantity			
									ny design/ drawing nd as per ISO Apex			
						•	cuments of RDSO.	i.e. 75 sets, an	iu as pei 130 Apex			
13.	Minim	um Facilities &	Machineries	required for	ı			chineries require	ed for manufacture of	1. M/s Veera Technotrec Pvt.	i) Item Fabricated Crossings is decontrolled	
13.		acture of Fabri		-			ated Curved Switch	-		Ltd., Rohtak:-	therefore Fabricated Crossings is deleted.	
		ated Crossings						Technical Requi	•			
	S.	Description	Minimum	Minimum		S.	Description	Minimum	Minimum	<u>i) At S.N. 6:-</u>	ii) <u>At S.N. 6:-</u>	
	N.		Capacity	Quantity		N.		Capacity	Quantity	1 No. is sufficient for maintain	Comment of M/s Jekay International Track Pvt.	
	1	Covered Area	-	1500 m²		1	Covered Area	-	1500 m²	1 No. is sufficient for maintenance purpose.	Ltd, M/s RV Rail Products Pvt. Ltd. & M/s	
	2	Gantry Crane	4 T	1 No.		2	Gantry Crane	4 T	1 No.		Ganpati Industrial Pvt. Ltd. Is partially	
		facilities	200 1:	4.11	1		facilities	000 "	4.01		acceptable and M/s Veera Technotrec Pvt. Ltd.,	
	3	Circular saw/ circular band	900 mm dia.	1 No.		3	Circular band	900 mm dia.	1 No.		Rohtak & Track design Inspection Unit is	
		saw			$ \cdot $	4	saw Hydraulic	350-500 T	1 No.	ii) At S.N. 7:-	acceptable as therefore numbers of shaper is	
	4	horizontal	1 No.		•	horizontal bending		1140.	CNC Plano – Milling machine	reduce from 03Nos. to 01Nos. and 01Nos. Plano		
							/ straightening			(optional)	milling machine added as Plano Milling Machine	
		bending /	:	1		machines			(-1	is required for formation of relief planning in the		
		straightening machines				5	Radial drill	32 mm dia.	1 No.		Fabricated Curved Switches.	
	5	Radial drill	32 mm dia.	1 No.		6	Shapers	600 mm stroke	3 Nos.	iii) At S.N. 18:-	iii) At S.N. 7:-	
	6	Shapers	600 mm	3 Nos.		7	Planning machines	i) 13 m stroke	1 No.	III) At 3.IV. 18	III) AC 3.IV. 7	
			stroke				macmines	ii) 8.5m stroke	1 No.	Electronic Dimensional		
	7	Planning machines	i) 13 m stroke	1 No.				iii) 5m stroke	1 No.	measurements with auto		
		macinies	ii) 8.5m	1 No.			CNC Plano-	iv) 13 m stroke	1 No.	recording facility can be implemented in combination with	Comment of M/s Veera Technotrec Pvt. Ltd.,	
			stroke	-1.0.			Milling machine (optional)			RDSO approved gauges	Rohtak is already incorporated hence no	
			iii) 5m	1 No.	-	8	Universal	40 T	1 No.		modification required & Comments from Track	
			stroke			-	Testing	(minimum)	1		design (Inspection Unit) is acceptable as Plano	
	8	i) Universal	40 T	1 No.			Machine	, ,			Milling Machine is required for formation of	
		Testing Machine	(minimum)			9	Charpy impact testing machine	-	1 No.	2. M/s Hindusthan Engineering Industries Ltd., Kolkata:	relief planning in the Fabricated Curved Switches. Therefore, 01 Nos. Plano milling	
		ii) Charpy	-	1 No.	11	10	Hardness tester	_	1 No.		machine added.	
		impact testing					Poldi / Rockwell		1	At S.N. 18:-		
		machine				11	Compressor	-	One complete set		iv) At S.N. 10:-	
	9	Compressor	-	One complete set			with riveting		including furnace	i) It will be more helpful if some more	,	
		with riveting arrangement		complete set including			arrangement		& riveting gun etc	details specification of "Electronic		
		arrangement		furnace &		12	CO ₂ / Mig	-	One complete set	Dimensional measurements with	Comments from Track design (Inspection Unit)	
				riveting gun			welding equipment		with approved brand of welding	auto recording facility" i.e., Size,	is acceptable however, it either 01Nos. Brinell	
				etc	┸┖		equipment		brand or welding	The recording racine, nei, size,	Hardness testing machine/Rockwell Hardness	

	10	CO ₂ / Mig	-	One
		welding equipment		complete set with
				approved
				brand of
	11	Hardness tester	_	welding wires 1 No.
		Poldi /		1110.
		Rockwell		
	12	Jigs & fixtures	-	At least one
		for drilling stock		set for each
		& tongue rails for switches &		item separately
		fabricated		separately
		crossings.		
	13	Assembly &	-	A separate
		Inspection Bay		area to be
				dedicated
				with proper levelled
				flooring
	14	Chemical lab	For	1 Unit
			Chemical	installed in
			Analysis of	house
			MS, Medium &	
			Low alloy	
			steel	
	15	Non- destructive	i) USFD	1 No.
		testing facilities	ii) D.P. test	1 No.
			iii) Magna	1 No.
			flux	
			iv) Metallu	1 No.
			rgical	
			Microsc	
			ope v) Polishin	1 No.
			g	
			Machin	
			e.	2
	16	Dedicated area with all above	-	1500 m ²
		machines		
		installed in		
- 1	1	proper flow line.		

				wires
	13	Jigs & fixtures	-	At least one set for
		for drilling stock		each item
		& tongue rails		separately
		for switches &		
		fabricated		
L		crossings.		
	14	Assembly &	-	A separate area to
		Inspection Bay		be dedicated with
				proper levelled
ļ				floor
	15	Chemical lab	For	1 Unit installed in
			Chemical	house
			Analysis of	
			MS,	
			Medium &	
			Low alloy	
			steel or	
			Spectromet	
ŀ	1.0	NI	er er	4.81-
	16	Non-	i) USFD	1 No.
		destructive testing facilities	ii) D.P. test	1 No.
			iii)Magnaflux	1 No.
			iv)Metallurgical	1 No.
			Microscope	
			v)Polishing	1 No.
L			Machine.	
	17	Dedicated area	-	1500 m ²
		with all above		
		machines		
		installed in		
ŀ		proper flow line.		4.11
	18	Electronic	Adequate	1 No.
		Dimensional	for	
		measurements	measureme	
		with auto	nt of	
		recording facility	Tongue rail machining	
			from ATS to	
			JOH/ critical	
			points (as	
			per (as	
			drawing)	
L		<u> </u>	arawing/	

Range, Accuracy etc. is mentioned in the STR.

- ii) Presently the Fabricated Curved Switches are machined on Planer Machines and no such surface finish is mentioned in the machined surface of Tongue Rails. Whether CMM can give exact dimensional accuracy in this case?
- 3. M/s Jekay International
 Track Pvt. Ltd, Raipur M/s
 RV Rail Products Pvt. Ltd.
 & M/s Ganpati Industrial
 Pvt. Ltd., Raipur:-

S.N.	Description								
6	It is no more needed for								
	manufacturers who have a								
	Plano Milling Machine. It								
	may be deleted								
18	As the dimension of the								
	Fabricated Switches is								
	adequate for measurement								
	of Tongue Rail machining								
	from ATS to JOH/Critical								
	point (as per Drawing) are								
	measured by approved								
	gauges and said gauge								
	0 0								
	drawings are already								
	approved by RDSO. So it is								
	not required.								

4. Track Design Dte. (Inspection Unit):-

S.N	. Description
6	Only 01 shaper will be
	sufficient if 01 Plano miller is
	added.
7.	"At least 01 Plano milling
	machine"
	Plano milling machine is
	required for formation of
	relief at the Switch foot.
10	"01 No. Brinell Hardness
	testing machine"
	Brinell Hardness testing
	machine is required.
15	"Spectrometer with printing

testing machine along with 01Nos. Poldi.

v) <u>At S.N. 15:-</u>

Comments from **Track design (Inspection Unit)** is acceptable regarding "Spectrometer with printing facilities" and incorporated accordingly however, comment on Chemical Lab may be replaced with Spectrometer in phased manner is not acceptable it either 01unit chemical lab or 01 Nos. Spectrometer hence no change.

vi) At S.N. 18:-

- i) Comment of M/s Veera Technotrec Pvt. Ltd., Rohtak regarding use of Electronic Dimensional measurements with auto recording facility can be implemented in combination with RDSO approved gauges is implemented in combination with RDSO approved already given in STR.
- ii) Comment of M/s Hindusthan Engineering Industries Ltd., Kolkata is not acceptable as it is the requirement of specification (IRS: T-10-2023) issued vide this office letter no. CT/Specification/T-10 dated 28.02.2023 to all stakeholder and as Para 7.4 of this specification that:
- " As the geometry of the Fabricated Switches, Crossings & SEJs is complex at several locations, hence for capturing various dimensional tolerances of the various track components covered in this specification, their critical dimensions can also be measured with the help of electronic methods of measurement like computer-based Coordinate Measuring Machines (CMM) duly calibrated by a reputed lab. The electronic method of measurement should have facility for preservation of the records of measurements."

"Electronic Dimensional measurements with auto recording facility" i.e., Size, Range,

	facilities" Chemical Lab may be replaced with Spectrometer in phased manner	will rail (as p	racy etc and e be adequate for machining from er drawing) Para revis mum Facilities & ufacture of Fabrica (Schedule of Tec	ed as Machineries recated Curved Stated Cur	t of Tongue itical points equired for witches and
		S. N.	Description	Minimum Capacity	Minimu m Quantity
		6	Shapers	600 mm stroke	3 Nos. 1 No.
		7	Planning machines	iv) 13 m stroke	1 No.
				v) 8.5m stroke	1 No.
				vi) 5m stroke	1 No.
			Plano- Milling machine	vii)5m stroke	1 No.
			CNC Plano- Milling machine (optional)	viii) 1 3 m stroke	1 No.
		1 0	Hardness- tester Poldi /- Rockwell Hardness testers a) Brinell Hardness testing machine / Rockwell Hardness testing machine b) Poldi	BHN hardness tester with ball size 2.5 to 10 mm dia.	1 No. 1 No.
		5	Chemical lab OR Spectrometer	For Chemical Analysis of MS, Medium & Low alloy steel OR Spectromete r having vacuum emission CCD/PMT	1 Unit installe d in house for wet chemica l analysis ORR 1 No. Spectr

14 ASSES	SSMENT DEDECRMA FOR ADDROVAL OF	ASSESSMENT DEDECORMA FOR ADDROVAL OF MANUFACTURE	No comments received	* 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 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.
MANU	SSMENT PERFORMA FOR APPROVAL OF UFACTURE (FRESH / RENEWAL) OF FABRICATED	ASSESSMENT PERFORMA FOR APPROVAL OF MANUFACTURE (FRESH / RENEWAL) OF FABRICATED CURVED SWITCHES AND	No comments received.	No change
CURV	/ED SWITCHES AND FABRICATED CROSSINGS. (To be prepared in duplicate)	FABRICATED CROSSINGS		
SECTI	(10 be prepared in duplicate) ION-I: GENERAL INFORMATION	(To be prepared in duplicate)		
J JECTI	ICIN I. GENERAL IN CRIMATION	SECTION-I: GENERAL INFORMATION		
1.	Name of the firm :			
2.	Postal address of :	1. Name of the firm :		
2.1.	Head office :	2. Postal address of :		
2.2.	Works :	2.1. Head office :		
3.	Telephone No. (with STD Code):	2.2. Works :		
3.1.	Head office :	Telephone No. (with STD Code):		
3.2.	Works: E-mail address:	3.1. Head office : 3.2. Works :		
4.1.	E-mail address : Head office :	4. E-mail address:		
4.1.	Works:	4.1. Head office :		
5.	Description of works:	4.2. Works:		
5.1.	Total land area (in Sq. meters) :	5. Description of works:		
5.2.	Total covered area (in Sq. meters) :	5.1. Total land area (in Sq. meters):		
5.3.	Different sub-units:	5.2. Total covered area (in Sq. meters) :		
5.4.	A fully dimensioned plan of the works showing	5.3. Different sub-units:		
	covered area and different shops shall be	5.4. A fully dimensioned plan of the works showing		
	enclosed :	covered area and different shops shall be enclosed :		
5.5.	Special features, if any:	5.5. Special features, if any:		
6.	Number of personnel employed (category-wise)	6. Number of personnel employed (category-wise)		
6.1.	Managerial:	6.1. Managerial :		
6.2.	Supervisory:			
	·			
6.1.	Managerial :	6.1. Managerial:		

- Unskilled: 6.4. 7. 8. 9. approval. 9.1. 9.2. 10.2. i) Per month ii) Per Year capacity 3.1 EOT Crane 3.2 Mobile Crane 3.3 Jib Crane-

 - Hours of working:
 - Weekly off day
 - State whether the firm is already in approved List with RDSO for supply of Switches / crossings. If so, please give details of last
 - Letter dated and issued by
 - Date of expiry of validity of approval.
 - Details of important orders executed in past for switches and crossings separately.:
 - 10.1. To other important firms / companies / undertakings.
- Directly to Railways.

SECTION II: TECHNICAL INFORMATION

- 1. Production Capacity-
- 2. Type of Stores/Items which the firm is capable of manufacturing:
- 3. Crane facilities No. of cranes Make of crane
- 4. Total Power Availability (in kVA / kW)
- a) From the State Electricity Board or other regular source (Enclose a copy of current electricity
- b) From own stand by generating sets (Also give make, capacity and other details of each generating
- 5. Machines (For manufacturing of Points and Crossings and related components)

l		rossings and rela	itea compo	onents)	
	S. No.	Name of	No. of	Make	Size &
		Machine	Machi	of the	capacit
			ne	Machi	y of
				ne	Machin
					е
	5.1	Circular			
		band			
		/Circular Saw			
	5.2	Radial Drill			
	5.3	Hydraulic			
		Bending			
		Machine			
		(Horizontal			
		350 T & 500T)			
	5.4	Milling			
		Machine			
	5.5	Shapers			
	5.6	Pillar Drills			
	5.7	Grinding			

- Hours of working:
- 8. Weekly off day
- 9. State whether the firm is already in approved Vendor List with RDSO for supply of Fabricated Switches/crossings. If so, please give details of last approval.
- 9.1. Letter dated and issued by
- 9.2. Date of expiry of validity of approval.
- 10. Details of important orders executed in past for switches and crossings separately
- 10.1. To other important firms / companies / undertakings.
- 10.2. Directly to Railways.

SECTION II: TECHNICAL INFORMATION

- 1. Production Capacity-
- i) Per month
- ii) Per Year
- iii) Type of Stores/Items which the firm is capable of manufacturing:
- 3. Crane facilities No. of cranes Make of crane capacity
- 3.1 EOT Crane
- 3.2 Mobile Crane
- 3.3 Jib Crane-
- 4. Total Power Availability (in kVA / kW)
- a) From the State Electricity Board or other regular source (Enclose a copy of current electricity bill).
- b) From own stand by generating sets (Also give make, capacity and other details of each generating set).
- 5. Machines (For manufacturing of Fabricated curved switches and related components)

S. No.	Name of Machine	No. of Machi ne	Make of the Machi ne	Size & capacit y of Machin e
5.1	Circular band Saw			
5.2	Radial Drill			
5.3	Hydraulic Bending Machine (Horizontal 350 T & 500T)			
5.4	Milling Machine			
5.5	Shapers			
5.6	Pillar Drills			
5.7	Grinding Machine			
5.8	Portable Grinders			
5.9	Power Hammer			
5.10	Forging Press			
5.11	Forming Press			

Track Design Dte. (Inspection Unit):-

Type of Stores/Items which the firm is capable of manufacturing should be given S.N.2

M/s Veera Technotrec Pvt. Ltd., Rohtak:-

- i) The Title "Type of Stores/Items which the firm is capable of manufacturing" should be given Sl. No. 2 in place of Sl. No.1 (iii).
- ii) Machines (For manufacturing of Fabricated curved switches and related components)

\neg	
	Comments/Suggestion
).	
3	Hydraulic Bending Machine
	(Horizontal 350 T to 500T)
4	Plano Milling Machine
	required
9	Not required may be deleted
10	Not required may be deleted
11	Not required may be deleted
12	Not required
	(Slide chair straightening can
	be done on Horizontal
	Hydraulic Press)
13	"Oil Fired/Coal Fired
	furnace/Induction furnace."
14	Electric welding sets (CO2 /
	Mig welding set) with
	approved brand of welding
	wires
	9 110 111 113

Comment of M/s Veera Technotrec Pvt. Ltd.. Rohtak regarding "Type of Stores/Items which the firm is capable of manufacturing should be given S.N.2 in place of Sl. No.1 (iii)" is acceptable and corrected.

Comment of Track Design Dte. (Inspection Unit), M/s Veera Technotrec Pvt. Ltd., Rohtak, M/s Jekay International Track Pvt. Ltd, Raipur, M/s R.V. Rail Products Pvt. Ltd., Raipur & M/s Ganpati Industrial Pvt. Ltd., Raipur regarding item no. 5 of Section II: Technical Information,

5.3,5.4,5.9,5.10,5.11,5.12,5.13,5.14,5.17,5.20, 9.5.8, 9.5.9, 9.5.10, 9.5.12, 9.5.13, 9.5.14, SN 7.5,SN13, addition of Drilling Jig & Fixture for drilling of tie plate for Tie are as under:

S.	Comments/Sugge	RDSO observation			
No.	stion				
5.3	Hydraulic	Accepted			
	Bending Machine	corrected			
	(Horizontal 350 T	accordingly			
	to 500T)				
5.4	Plano Milling	Accepted added			
	Machine	accordingly			
	required				
5.9	Not required may	Not Accepted			
	be deleted				
5.10	Not required may	Not Accepted			
	be deleted				
5.11	Not required may	Not Accepted			
	be deleted				
5.12	i) Not	Accepted d can			
	required(Slide	be done on			
	chair	Horizontal			

	Machine	5.12	Forming Press	5.1	1 9		straightening	Hydraulic Pres
5.8	Portable		Slide chair		Planer/Plano Milling Machine		can be done on	deleted
	Grinders		straightening		having stroke of 5m, 8.5m,		Horizontal	accordingly
5.9	Power		machine		10m & 13m		Hydraulic	
	Hammer	5.13	Oil Fired Furnaces		(CNC Plano Milling Machine		Press)	
5.10	Forging Press		for rivets		optional having stroke of 5m,		::\ T	
5.11	Forming Press	5.14	Electric welding		8.5, 10m & 13m)		ii) Type of machine may	
5.12	Slide chair		sets (CO2 / Mig	5.2	· · · · · · · · · · · · · · · · · · ·		be defined. We	
	straightening		welding set) with RDSO approved		Drilling Jig for Tie Plate should be added.		propose to use	
	machine		brand of welding		be added.		Hydraulic Press	
5.13	Oil Fired		wires				Machine with	
	Furnaces for	5.15	Gas-welding / Gas		Jekay Internation Track Pvt. Ltd,		minimum	
	rivets	3.13	cutting Facilities	M/:	RV Rail Products Pvt. Ltd. & M/s		capacity of 100	
5.14	Electric		(Including	Gar	pati Industrial Pvt. Ltd.		T	
	welding sets		preheating			5.13	"Oil Fired/Coal	Accepted
	(CO2 / Mig		arrangements)	Mad	chines (For manufacturing of		Fired	corrected
	welding set)	5.16	Jim Crow		ricated curved switches and		furnace/Inductio	accordingly
	with RDSO	5.16			ted components)		n furnace."	
	approved	5.1/	Planning machines / CNC			5.14	Electric welding	Already correct
	brand of		Plano- Milling	S.	Comments/Suggestion		sets (CO2 / Mig	
F 4 F	welding wires		machine (optional)	No.			welding set) with	
5.15	Gas-welding /			5.1	1 ''		approved brand	
	Gas cutting		having stroke of 5m, 8.5m, 10m &		defined. We propose to use		of welding wires	
	Facilities		1		Hydraulic Press Machine with	5.17	Planning	Not Accepte
	(Including		13m.	 L_	minimum capacity of 100 T	3.17	Machine	however
	preheating	5.18	Air-compressor				Planer/Plano	
	arrangements	5.19	Pneumatic riveting				•	modified as given below:
)		Gun for 1:12 or				Milling Machine	below:
5.16	Jim Crow		flatter angle				having stroke of	i\ Dlanning
5.17	Planning		switches.				5m, 8.5m, 10m & 13m	i) Planning machines
	machines /	5.20	Electronic				(CNC Plano	having stro
	having stroke		Dimensional				Milling Machine	of 5m, 8.5
	of 5m, 8.5m,		measurements with				optional having	& 13m.
	10m & 13m.		auto recording				stroke of 5m, 8.5,	ii) CNC Plan
5.18	Air-		facility				10m & 13m)	Milling
	compressor						10111 (X 13111)	machine
5.19	Pneumatic							(optional)
	riveting Gun							having stro
	for 1:12 or							of 13m.
	flatter angle					5.20	1 No. required	Quantity alrea
	switches.					3.20	I No. required	mentioned
6. Heat	Treatment Facilities							STR. Hence, he
6.1 Heat	t Treatment facilities for high speed steel.							it is not required
6.2 Heat	t treatment facility for hot die steel					In 0 1	Drilling Jig for Tie	
	lening furnace					111 8.1		Accepted add
	5						Plate should be	accordingly
	pering furnace.					7-	added.	A 1
6.5 Salt	bath furnace.					7.5	Brinell Hardness	Accepted
					ck Design Dte. (Inspection Unit):-		testing is	however, it eith
				At	SN 7.5 Brinell Hardness testing is		required.	01Nos. Brin
7. Testir	ng Equipment / facilities Nos. Make Size /			rea	uired.			Hardness testi
		1		4				machine/Rockw
	Capacity							l Hardness testir

7.1 Ultrasonic test of rails			machine alo
7.2 Magnaflux			with 01N Poldi.
7.3 Tensile testing machine (UTM Machine)	9.5.8	Fixtures for	Accepted
7.4 Polishing Machine		machining of bearing plates (for switches) not	deleted accordingly
7.5 Hardness testing machine		required	
i)Poldi	9.5.9	Fixtures for	Accepted
ii) Rockwell		multiple drilling	deleted
7.6 Charpy Impact testing machine		of slide chair	accordingly
7.7 Lab for finding out the chemical composition of any		base holes (for	
sample.		switches not required)	
7.8 Other NDT facilities (DP test etc.)	9.5.1	Fixtures for	Accepted
		Drilling (for	deleted
8. Handling facilities (It should be mentioned whether		switches) not	accordingly
		required	
there is proper facilities for handling of finished switches & crossings)		2 1	<u> </u>
Switches & Crossings)	9.5.1	Brackets (for	Accepted
		switches) not required	deleted accordingly
	9.5.1	Lugs (for	Accepted
9. Jigs and fixtures		switches) not	deleted
9.1 Drilling Jigs (for switches)		required	accordingly
Name of the Jigs No. of Jig Drg. No.	9.5.1	Fixtures for	Accepted
9.1.1 Tongue Rail Drilling Jig		Drilling of Special	deleted
9.1.2 Stock Rail Drilling Jig		Chairs (for switches) not	accordingly
9.1.3 Check Rail Drilling Jig		required	
	In 8.3	Fixture for drilling of tie	Accepted add
9.1.4 Drilling jigs for stretcher bars		plate should be	accordingly
9.1.5 Drilling jigs for slide chairs		added	
9.1.6 Drilling jigs for Bearing Plates	13	Railway siding	Accepted
9.1.7 Drilling jigs for Brackets 9.2 Drilling jigs for crossings		facilities is Not	deleted
9.2.1 Point Rail Drilling Jig		applicable	accordingly
9.2.2 Splice Rail Drilling Jig		(should be	
9.2.3 Wing Rail Drilling Jig		deleted).	
9.2.4 Drilling Jigs for Diamond crossings			
9.3 Bending Jigs & Fixtures	The F	Para revised as:	<u>-</u>
9.3.1 Jig & fixture for Tongue Rail (for switches)	5.	Machines (For n	nanufacturing
9.3.2 Jig & fixture for Splice Rail (for normal & diamond		abricated curved swit	
crossings)	cc	omponents)	
9.3.3 Jig & fixture for Point Rail (for normal & diamond			
crossings)	M/s Veera Technotrec Pvt. Ltd.,		
	Rohtak:-	Name of	No. Mak Si
9.3.4 Jig & fixture for Wing Rail (for normal & diamond	No.	Machine	of e of &

diamond crossings) 9.4 Fixtures for Milling (for crossings) Fixtures for Milling Splice Rails Fixtures for Milling Point Rails 9.5 Other Fixtures Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings)	6.1 Heat Treatment facilities for high speed steel 6.2 Heat treatment facility for hot die steel 6.3 hardening furnace 6.4 Tempering furnace 6.5 Salt bath furnace 7. Testing Equipment / facilities Nos. Make Size / Capacity 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine i)Poldi		9.5.9, 9.5.10, 9.5.12, 9.5.13 & 9.5.14 is Not required. Fixture for drilling of tie plate should be added SN 13, Railway siding facilities is Not applicable (should be deleted).	5.3 5.4 5.12	Hydraulic Bending Machine (Horizontal 350 T & to 500T) Plano-Milling Machine having stroke of 5m Slide chair	hine	Mac hine	city of Ma hin
diamond crossings) 9.4 Fixtures for Milling (for crossings) Fixtures for Milling Splice Rails Fixtures for Milling Point Rails 9.5 Other Fixtures Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings)	6.2 Heat treatment facility for hot die steel 6.3 hardening furnace 6.4 Tempering furnace 6.5 Salt bath furnace 7. Testing Equipment / facilities Nos. Make Size / Capacity 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine		Fixture for drilling of tie plate should be added SN 13, Railway siding facilities is Not applicable (should be	5.4	Bending Machine (Horizontal 350 T & to 500T) Plano-Milling Machine having stroke of 5m		Tille	Ma
9.4 Fixtures for Milling (for crossings) Fixtures for Milling Splice Rails Fixtures for Milling Point Rails 9.5 Other Fixtures Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	6.3 hardening furnace 6.4 Tempering furnace 6.5 Salt bath furnace 7. Testing Equipment / facilities Nos. Make Size / Capacity 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine		should be added SN 13, Railway siding facilities is Not applicable (should be	5.4	Bending Machine (Horizontal 350 T & to 500T) Plano-Milling Machine having stroke of 5m			
Fixtures for Milling Splice Rails Fixtures for Milling Point Rails 9.5 Other Fixtures Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	6.4 Tempering furnace 6.5 Salt bath furnace 7. Testing Equipment / facilities Nos. Make Size / Capacity 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine	V)	is Not applicable (should be	5.4	Bending Machine (Horizontal 350 T & to 500T) Plano-Milling Machine having stroke of 5m			
Fixtures for Milling Point Rails 9.5 Other Fixtures Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	6.5 Salt bath furnace 7. Testing Equipment / facilities Nos. Make Size / Capacity 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine				(Horizontal 350 T & to 500T) Plano-Milling Machine having stroke of 5m			
9.5 Other Fixtures Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7. Testing Equipment / facilities Nos. Make Size / Capacity 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine				Plano-Milling Machine having stroke of 5m			
Fixtures for planning of- 9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	 7.1 Ultrasonic test of rails 7.2 Magnaflux 7.3 Tensile testing machine (UTM Machine) 7.4 Polishing Machine 7.5 Hardness testing machine 				Machine having stroke of 5m			
9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7.2 Magnaflux7.3 Tensile testing machine (UTM Machine)7.4 Polishing Machine7.5 Hardness testing machine			5.12	of 5m			
9.5.1 Tongue Rail Head Machining (for switches) 9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7.2 Magnaflux7.3 Tensile testing machine (UTM Machine)7.4 Polishing Machine7.5 Hardness testing machine			5.12				1
9.5.2 Tongue Rail Flange Machining (for switches) 9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7.3 Tensile testing machine (UTM Machine)7.4 Polishing Machine7.5 Hardness testing machine			5.12	Slide chair			
9.5.3 Check Rail Machining (for switches) 9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7.4 Polishing Machine7.5 Hardness testing machine							Г
9.5.4 Point Rail Machining (for crossings) 9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7.4 Polishing Machine7.5 Hardness testing machine			1	straightening-			
9.5.5 Splice Rail Machining (for crossings) 9.5.6 Wing Rail Machining (for crossings)	7.5 Hardness testing machine				machine			\perp
9.5.6 Wing Rail Machining (for crossings)	5	1		5.13	Oil Fired / Coal			
3 (1 1 1 3)	5			5.12	Fired /			
S.E. T. A					Induction			
sien, resembled the machining (net el esember	•				Furnaces for			
	ii) Rockwell			5.14	rivets Electric			+
,	7.6 Charpy Impact testing machine			5.13	welding sets			
	7.7 Lab for finding out the chemical composition of any			3.13	(CO2 / Mig			
holes (for switches)	sample.				welding set)			
9.5.10 Fixtures for drilling of Slide Chair Lug Hole (for	7.8 Other NDT facilities (DP test etc.)				with RDSO			
switches)					approved			
9.5.11 Fixtures for Drilling (for switches)					brand of			
9.5.12 Brackets (for switches)	8. Handling facilities (It should be mentioned whether there is				welding wires			
9.5.13 Lugs (for switches)	proper facilities for handling of finished switches &			5.15	Gas-welding /			
9.5.14 Fixtures for Drilling of Special Chairs (for	crossings)			5.14	Gas cutting			
switches)					Facilities(Inclu			
9.5.15 Fixtures required for the assembly of 'Vee' of all					ding			
types and sizes (for crossings)					preheating			
9.5.16 Fixtures for all sizes of blacks (for crossings)	9. Jigs and fixtures			F 16	arrangements)			+
OF 17 Nosa Plack (for crossings)				5.16 5.15	Jim Crow			
, , , ,	9.1 Drilling Jigs (for switches)			5.17	Planning			+
	Name of the Jigs No. of Jig Drg. No.			5.16	machines/			
	0.4.4.7				CNC Plano-			
10. Checking Gauges	9.1.1 Tongue Rail Drilling Jig				Milling			
	9.1.2 Stock Rail Drilling Jig				machine			
Drawings of relevant inspection gauges for					(optional)			
checking dimensions of switches, crossings &	9.1.3 Check Rail Drilling Jig				having stroke			
check rails etc including components shall be					of 5m, 8.5m &			
made available along with relevant gauges to	9.1.4 Drilling jigs for stretcher bars				13m.			
inspecting agency at the time of Assessment /	9.1.5 Drilling jigs for slide chairs				i) Planning			
neussessifiert.	9.1.6 Drilling jigs for Bearing Plates				machines			
	9.1.7 Drilling jigs for Brackets 9.2 Drilling jigs for crossings				having stroke of			
	9.2.1 Point rail Drilling Jig				stroke of 5m, 8.5m &			

11. Assembly of Vee / Crossing / Switches

It should be mentioned that how much leveled area is provided for the assembly section of each 'Vee', 'Crossing' and 'Switches' assembly.

12. Leveling -Jogan for laying the full turnout.

It should be mentioned whether there is sufficient leveled space for laying the turnout, it should also be mentioned that there are facilities for track gauge, Jim Crow, Crow Bar, Spirit level, hammer etc.

- 13. Railway siding facilities.
- 14. A fully dimensioned plan of the works showing locations of various equipment and facilities for the manufacture of Fabricated switches and crossings, flow line indicating location of various operations during manufacture in proper sequence and storage facilities for finished products and dispatch may please be enclosed.

15. QUALITY ASSURANCE

- 15.1 Does the factory has any established quality assurance programme as per ISO-9000:2015 series. If yes, please enclose a copy of the ISO-9000:2015 certificate.
- 15.2 Detail of quality assurance organization, Name of key personal, their qualification, designations and position in overall management structure (Enclose organizational chart for quality control)
- 15.3 Quality control testing facilities laboratory equipment available to be listed along with the make, year of procurement and commissioning.
- 15.4 Calibration of laboratory / test equipment / gauge. (Enclose copy of calibration certificate).
- 15.5 Frequency of calibration.
- 15.6 Source of procurement of raw materials / bought outs and steps taken to ensure their quality.
- 15.7 Brief details of manufacturing process as relevant to the items for which registration is sought (Switches and crossings separately).
- 15.8 Details of inspection / checks done on material during various stages of the above manufacturing process (Enclose copy of QAP of switches & crossing separately).
- 15.9 Has the acceptable value for the parameters

9.2.2 Splice Rail Drilling Jig

9.2.3 Wing Rail Drilling Jig

9.2.4 Drilling Jigs for Diamond crossings

9.3 Bending Jigs & Fixtures

9.3.1 Jig & fixture for Tongue Rail (for switches)

9.3.2 Jig & fixture for Splice Rail (for normal & diamond-crossing)

9.3.3 Jig & fixture for Point Rail (for normal & diamond-crossing)

9.3.4 Jig & fixture for Wing Rail (for normal & diamond-crossing)

9.3.5 Jig & fixture for Obtuse Elbow Rail (for normal & diamond crossing)

9.4 Fixture for Milling (for crossings)

Fixture for Milling Splice Rails

Fixture for Milling Point Rails

9.5 Other Fixtures

Fixtures for planning of-

9.5.1 Tongue Rail Head Machining (for switches)

9.5.2 Tongue Rail Flange Machining (for switches)

9.5.3 Check Rail Machining (for switches)

9.5.4 Point Rail Machining (for crossings)

9.5.5 Splice Rail Machining (for crossings)

9.5.6 Wing Rail Machining (for crossings)

9.5.7 Assembled Vee Machining (for crossings)

9.5.8 Fixtures for machining of bearing plates (for switches)

9.5.9 Fixtures for multiple drilling of slide chair base holes (for switches)

9.5.10 Fixtures for drilling of Slide Chair Lug Hole (for switches)

9.5.11 Fixtures for Drilling (for switches)

9.5.12 Brackets (for switches)

9.5.13 Lugs (for switches)

9.5.14 Fixtures for Drilling of Special Chairs (for switches)

9.5.15 Fixture required for the assembly of 'Vee' of all types and sizes (for crossings)

9.5.16 Fixtures for all sizes of blacks (for crossings)

9.5.17 Nose Block (for crossings)

10. Checking Gauges

Drawings of relevant inspection gauges for checking dimensions of switches, erossings & check rails etc including components shall be made available along with relevant gauges to inspecting agency at the time of Assessment/Reassessment Initial approval / Quality Audit.

11. Assembly Vee/Crossing/ of Switches

	13m. ii) CNC Plano- Milling machine (optional) having		
	stroke of 13m.		
5.18	Air-		
5.17	compressor		
5.19	Pneumatic		
5.18	riveting Gun		
	for 1:12 or		
	flatter angle		
	switches.		
5.20	Coordinate		
5.19	Measuring		
	Machine		
	(CMM)		
	Electronic Dimensional		
	measurements		
	with auto		
	recording		
	facility		

- **6.** 7. Testing Equipment/facilities Nos. Make Size / Capacity
- 6.1 7.1 Ultrasonic test of rails
- 6.2 7.2 Magnaflux
- 6.3 7.3 Tensile testing machine (UTM Machine)
- 6.4 7.4 Polishing Machine
- 6.5 7.5 Hardness testing machine
 - i) Poldi
 - ii) Brinell / Rockwell
- 6.6 7.6 Charpy Impact testing machine
- **6.7 7.7** Lab for finding out the chemical composition of any sample.
- 6.8 7.8 Other NDT facilities (DP test etc.)
- 8. Handling facilities (It should be mentioned whether there is proper facilities for handling of finished switches &crossings)
- 8. 9. Jigs and fixtures

- inspected during the above stages checks been laid down? If yes, the action taken if value of the parameters inspected does not meet the desired laid down value.
- 15.10 System for documentation of the results of the above stage check.
- 16. Whether one sample set of switches and crossing separately ready for inspection during reassessment (Report to be submitted by inspecting official).
- Whether the firm is possessing officially issued prints of relevant drawings and specifications.

- It should be mentioned that how much leveled area is provided for the assembly section of each 'Vee', 'Crossing' and 'Switches' assembly.
- 12. Leveling -Jogan for laying the full turnout.

It should be mentioned whether there is sufficient leveled space for laying the turnout, it should also be mentioned that there are facilities for track gauge, Jim Crow, Crow Bar, Spirit level, hammer etc.

- 13. Railway siding facilities.
- 14. A fully dimensioned plan of the works showing locations of various equipment and facilities for the manufacture of Fabricated curved switches and crossings, flow line indicating location of various operations during manufacture in proper sequence and storage facilities for finished products and dispatch may please be enclosed.

15. QUALITY ASSURANCE

- 15.1 Does the factory has any established quality assurance programme as per ISO-9001:2015 series. If yes, please enclose a copy of the ISO-9001:2015 certificate.
- 15.2 Detail of quality assurance organization, Name of key personal, their qualification, designations and position in overall management structure (Enclose organizational chart for quality control)
- 15.3 Quality control testing facilities laboratory equipment available to be listed along with the make, year of procurement and commissioning.
- 15.4 Calibration of laboratory / test equipment / gauge. (Enclose copy of calibration certificate).
- 15.5 Frequency of calibration.
- 15.6 Source of procurement of raw materials / bought outs and steps taken to ensure their quality.
- 15.7 Brief details of manufacturing process as relevant to the items for which registration is sought (Fabricated Switches and crossings separately).
- 15.8 Details of inspection / checks done on material during various stages of the above manufacturing process (Enclose copy of QAP of switches & crossing separately).
- 15.9 Has the acceptable value for the parameters inspected during the above stages checks been laid down? If yes, the action taken if value of the parameters inspected does not meet the desired laid down value.
- 15.10 System for documentation of the results of the above

```
8.1 9.1 Drilling Jigs (for switches)
    Name of the Jigs
                            No. of Jig
                                         Drg.
No.
              Drg. No.
8.1.1 9.1.1 Tongue Rail Drilling Jig
8.1.2 9.1.2 Stock Rail Drilling Jig
8.1.3 9.1.3 Check Rail Drilling Jig
8.1.4 9.1.4 Drilling jigs for stretcher bars
8.1.5 9.1.5 Drilling jigs for slide chairs
8.1.6 9.1.6 Drilling jigs for Bearing Plates
8.1.7 9.1.7 Drilling jigs for Brackets
8.1.8
             Drilling jigs for Tie plate
8.2 9.3 Bending Jigs & Fixtures
8.2.1 9.3.1 Jig & fixture for Tongue Rail (for
     switches)
8.3 9.5 Other Fixtures
     Fixtures for planning of-
8.3.1 9.5.1 Tongue Rail Head Machining (for
     switches)
8.3.2 9.5.2 Tongue Rail Flange Machining (for
     switches)
8.3.3 9.5.3 Check Rail Machining (for switches)
     9.5.8 Fixtures for machining of bearing
     plates (for switches)
     9.5.9 Fixtures for multiple drilling of slide
     chair base holes (for switches)
      9.5.10 Fixtures for drilling of Slide Chair-
     Lug Hole (for switches)
8.3.4 9.5.11 Fixtures for Drilling (for switches)
      9.5.12 Brackets (for switches)
      9.5.13 Lugs (for switches)
     9.5.14 Fixtures for Drilling of Special
     Chairs (for switches)
8.3.5 Fixtures for Drilling of Tie plate
9. 10. Checking Gauges
```

Drawings of relevant inspection gauges

for checking dimensions of switches,

crossings & check rails etc including

components shall be made available

stage check. along with relevant gauges to inspecting agency at the time of Assessment / Reassessment Initial 16. Whether one sample set of switches and crossing approval / Quality Audit. separately ready for inspection during reassessment Quality Audit (Report to be submitted by inspecting 10. 11. Assembly of Switches official). It should be mentioned that how much 17. Whether the firm is possessing officially issued prints of leveled area is provided for the relevant drawings and specifications. assembly 'Switches'. 11. 12. Leveling -Jogan for laying the full turnout. It should be mentioned whether there is sufficient leveled space for laying the turnout, it should also be mentioned that there are facilities for track gauge, Jim Crow, Crow Bar, Spirit level, hammer etc. 13. Railway siding facilities. 12. 13. A fully dimensioned plan of the works showing locations of various equipment and facilities for the manufacture of Fabricated curved switches flow line indicating location of various operations during manufacture in proper sequence and storage facilities for finished products and dispatch may please be enclosed. 13. 45 QUALITY ASSURANCE 13.1 15.1 Does the factory has any established quality assurance programme as per ISO-9000:2015 series. If yes, please enclose a copy of the ISO-9000:2015 certificate. 13.2 15.2 Detail of quality assurance organization, Name of key their qualification, personal, designations and position in overall management structure (Enclose organizational chart for quality control) 13.3 **15.3** Quality control testing facilities laboratory equipment available

					13.4 £	procurement and commissioning. 15.4 Calibration of laboratory / test equipment / gauge. (Enclose copy of calibration certificate). 5.5 Frequency of calibration. 5.6 Source of procurement of raw
					13.7	materials / bought outs and steps taken to ensure their quality. 15.7 Brief details of manufacturing process as relevant to the items for which registration is sought (Switches).
						Details of inspection / checks done on material during various stages of the above manufacturing process (Enclose copy of QAP).
					13.9	
						15.10 System for documentation of the results of the above stage check.
						16-Whether one sample set of switches ready for inspection during Quality Audit (Report to be submitted by inspecting official).
						17 Whether the firm is possessing officially issued prints of relevant drawings and specifications.
16.	SECTION - III: DECLARATION	SECTIO	N - III: DECLARATION	No comments received.	No cha	nge
	(i) We do hereby declare that the above pare correct and no discrepancy shall during actual investigation before an execution of order on our firm.	be found co	Ve do hereby declare that the above particulars are orrect and no discrepancy shall be found during ctual investigation before and during execution of order on our firm.			
	(ii) Any change in the plant and machi change of place of office and of works be brought to the notice of RDSO for and approval.	s site shall p clearance th (iii) W	ny change in the plant and machinery and change of lace of office and of works site shall be brought to be notice of RDSO for clearance and approval. It is also declare that our concern has not been black sted by Railway, Railway Board / RDSO for business			
	(iii) We also declare that our concern has black listed by Railway, Railway Boar	not been w	ith the Railways. /e hereby undertake that all our equipments for			

Place Date:		Signature Name in full of Signing Authority Stamp of the Firm
	Stamp of the Firm	in the proper format.
	Name in full of Signing Authority	Switch and disposal of scrap of Fabricated Curve Switch
	Signature	Fabricated Curve Switch, supply of Fabricated Curve
	times.	(vi) We hereby undertake to maintain the record of the procurement of any raw material for production of
	shall be maintained in good working order at all	all the stipulated laid therein.
	for manufacturing and testing as listed above	read and understood by us and our firm shall abide by
(iv)	We hereby undertake that all our equipments	instructions of latest ISO Apex Documents has been
		(v) We hereby declare that the contents and the
	for business with the Railways.	manufacturing and testing as listed above shall be maintained in good working order at all times.