

ANNEXURE-I



AMENDMENT TO TECHNICAL SPECIFICATION FOR GALVANISED CABLE TRAY SUPPORT SYSTEM (WELDED TYPE) FOR 5X800 MW YADADRI TPS

SPECIFICATION NO.: PE-TS-417-507-E021

AMENDMENT NO # 1

REV. NO. 00

DATE: 04/10/2019

Page 1 of 1

MODIFIED CLAUSES AS BELOW.

SI no.	Vol. No.	Section/ Description	Clause no	Page no	Existing clause/details	Modified Clause
1	II	SECTION-I	QUALITY PLAN, ANNEXURE-I & ANNEXURE-II	SHEET 7 TO 11 of 15 OF TECHNICAL SPECIFICATION	QUALITY PLAN, ANNEXURE-I & ANNEXURE-II	REVISED QUALITY PLAN, ANNEXURE-I & ANNEXURE-II

P. Vinayaka
04/10/19

H. Jayawant
04.10.19

S. Devan Das
09/10/19



DOCUMENT TITLE

**TECHNICAL SPECIFICATION FOR
GALVANISED
CABLE TRAY SUPPORT SYSTEM
(WELDED)**

SPECIFICATION NO. PE-TS-417-507-E012

VOLUME II

SECTION -I

REVISION 0

DATE: 02.07.2018

SHEET 1 OF 3

QUALITY PLAN

QUALITY PLAN										
CUSTOMER : TSPGCL		PROJECT TITLE : 5X800 MW YADADRI TPS		SPECIFICATION NO. : PE-TS-417-507-E012						
MANUFACTURER NAME & ADDRESS:		QP NO. : PE-QP-417-507-E006, REV. 01		SPECIFICATION TITLE: TECHNICAL SPECIFICATION FOR GALVANISED CABLE TRAY SUPPORT SYSTEM (WELDED TYPE)						
SHEET 1 OF 2		ITEM : CABLE TRAY SUPPORT SYSTEM (WELDED TYPE)		REMARKS						
SL. NO.	COMPONENT/OPERATION	CHARACTERISTIC CHECK	SYSTEM CAT.	CABLEING TYPE/METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY P W V	
1	2	3	4	5	6	7	8	9	10 11	
1.0	RAW MATERIAL									
1.1	MILD STEEL SECTIONS (CHANNEL & ANGLES) AS PER SPECIFICATION	1.CHEMICAL & PHY. PROPERTIES	MA	VERIFICATION OF TC'S	100%	IS -2062	IS -2062	MILL TC	3 - 1/2	Steel shall be procured from SAIL/TISCO/RINL/BHUSAN STEEL/JINDAL ISPAT/ ESSAR/LLOYD/ IISCO/ authorised SAIL Re Rollers.
		2.DIMENSIONS	MA	MEASUREMENT	100%	IS - 808/ IS - 1852	IS - 808/ IS - 1852	QC RECORD	3/2 -	
		3.SURFACE FINISH	MA	VISUAL	100%	IS-2062	IS-2062	QC RECORD	3/2 -	
1.2	ZINC	CHEM.COMP.	MA	CHEM. TEST	EACH HEAT	IS-209	IS-209	MILL TC	3/2 - 1/2	
2.0	IN-PROCESS									
2.1	CUTTING	1.DIMENSIONS	MA	MEASUREMENT	100%	5.5 MTRS TO 6.5 MTRS	5.5 MTRS TO 6.5 MTRS	QC RECORD	2 - 1	
		2. WELDING QUALITY (IF APPLICABLE)	MA	VISUAL	100%	GOOD WELDING PRACTICE	FREE FROM DEFECTS & SLAG	QC RECORD	2 - 1	
		3.SURFACE FINISH	MA	VISUAL	100%	FREE FROM DEFECTS & SLAG	FREE FROM DEFECTS & SLAG	QC RECORD	2 - 1	
2.2	SURFACE PREPARATION	1.CLEANING, PICKLING, RINSING & FLUXING	MA	VISUAL	PERIODIC IN EACH SHIFT	IS-2629	IS-2629	QC RECORD	2 -	
		2. SURFACE QUALITY	MA	VISUAL	100%	IS-2629	IS-2629	QC RECORD	2 -	
2.3	GALVANISING	1.TEMPERATURE OF BATH	MA	TEMPERATURE INDICATOR	CONTINUOUS	IS-2629	IS-2629	QC RECORD	3/2 -	Galvanization is to be done at galvanisation plant listed in annexure-2 to quality plan.
BHEL		PARTICULARS		BIDDER/VENDOR						
		NAME								
		SIGNATURE								
		DATE								
LEGEND :		1 - BHEL/CUSTOMER	2 - VENDOR	3 - SUB-VENDOR	P - PERFORM	W - WITNESS	BIDDER/SVENDORS COMPANY SEAL			
							V - VERIFICATION			

		CUSTOMER : TSPGOL				PROJECT TITLE : 5X800 MW YADRI TPS				SPECIFICATION NO. : PE-TS-417-507-E012			
MANUFACTURER NAME & ADDRESS:		SYSTEM:				ITEM : CABLE TRAY SUPPORT SYSTEM (WELDED TYPE)				SPECIFICATION TITLE: TECHNICAL SPECIFICATION FOR GALVANISED CABLE TRAY SUPPORT SYSTEM (WELDED TYPE)			
SHEET 2 OF 2		CHARACTERISTIC CHECK		CAT.	TYPE/METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS
SL. NO.	2	3	4	5	6	7	8	9	10	P	W	V	
1													11
3.0	FINISHED ITEMS	2. DROSS 3. RATE OF IMMERSION 4. SURFACE QUALITY	MA MA MA	VISUAL VISUAL MEASUREMENT VISUAL	PERIODIC 100% 100%	IS - 2629 IS - 2629 / MFR'S PRACTICE IS - 2629	IS - 2629 IS - 2629 / MFR'S PRACTICE FREE FROM BURRS, ROUGHNESS, SLAG, FLUX, STAIN, ETC.	QC RECORD QC RECORD QC RECORD		3/2 3/2 3/2	- - -	- 2 -	
		1. DIMENSIONS	MA	MEASUREMENT	IS 2500 (PART 1) LEVEL S-4	5.5 MTRS TO 6.5 MTRS	5.5 MTRS TO 6.5 MTRS	INSP. REPORT		2	1	-	
		2. SURFACE FINISH	MA	VISUAL	IS 2500 (PART 1) LEVEL S-4	FREE FROM BURRS, SLAG, ROUGHNESS, FLUX, STAIN, ETC.	FREE FROM BURRS, SLAG, ROUGHNESS, FLUX, STAIN, ETC.	INSP. REPORT		2	1	-	
		3. MASS OF ZINC COATING	MA	CHEM. TEST	IS 4759	IS - 6745	610 gms/ Sq m	INSP. REPORT		2	1	-	
		4. UNIFORMITY OF ZINC COATING	MA	CHEM. TEST	IS 4759	IS-2633	IS-2633	INSP. REPORT		2	1	-	
		5. THICKNESS OF ZINC COATING	MA	ELCOMETER	IS 4759	75 MICRONS (MINIMUM) 86 MICRONS (AVERAGE)	75 MICRONS (MINIMUM) 86 MICRONS (AVERAGE)	INSP. REPORT		2	1	-	
		6. ADHESION	MA	MECH. TEST	IS 4759	IS-2629	IS-2629	INSP. REPORT		2	1	-	
NOTE:- Instruction for filling Quality Plan is attached as Annexure-1.													
BHEL													
PARTICULARS													
NAME													
SIGNATURE													
DATE													
BIDDERS/VENDORS COMPANY SEAL													
V - VERIFICATION													
LEGEND : 1 - BHEL/ CUSTOMER 2 - VENDOR 3 - SUB-VENDOR P - PERFORM W - WITNESS													

ANNEXURE-1

INSTRUCTIONS FOR QUALITY PLAN

The Quality Plan shall include all the Quality Control Measures and Checks adopted by the Vendor to ensure that the material/component/assembly/services supplied by him meet/will meet the requirements as per specifications and good practices. They shall include all stages of operation such as materials, processes, manufacture, assembly, packing and despatch. The following guide lines may be noted:

- Column 1- Serial Number
- Column 2- Component/Operation- The component and/or operation being checked shall be given here.
- Column 3- Characteristics check- The characteristics being checked shall be given here, e.g., chemical composition, mechanical properties, leak tightness, surface defects etc..
- Column 4- Category - 'CR' stands for critical characteristic - affecting safety of equipment and personnel
'MA' stands for major Characteristic - affecting safety of equipment and personnel
'MI' stands for minor characteristic - affecting appearance etc.
- Column 5- Type/Method of check e.g. chemical analysis tensile testing, hydraulic test, visual examination radiography etc.
- Column 6- Extent of check, such as, 100, 10, 1 percent etc.
- Column 7- Reference Documents - Documents, such as technical specification, drawings, standard specifications (IS, BS ETC.) procedure, etc. according to which check is done.
- Column 8- Acceptance Norms - Standards etc. according to which acceptability or otherwise of the characteristics being checked is decided.
- Column 9- Format of Record - Formats, log sheets, reports, etc. in which the observations are recorded. Standard log sheets, reports, formats etc. of the Vendors shall be numbered and such reference numbers shall be included here.
- Column 10- Agency - The agency which performs the test/instruction shall be written in sub-column 'W'
The agency which verifies test certificates/inspection records and carries out audit check of the components/operation shall be written in sub-column 'V'
- The agencies are codified as 1,2 & 3
- '1' stands for (BHEL)
- '1' * means the operation shall be cleared by BHEL before the start of the next operation.
- '2' Stands for Vendor
- '3' stands for sub-Vendor of the Vendor and so on.
- Example :
- Entry '3' in column 'P' means test./inspection to be performed by sub-Vendor's QC
- Entry '2' in column 'W' means test./inspection to be witnessed by Vendor's QC
- Entry '1' in column 'V' means verification shall be done by BHEL and next stage to be started only after the hold point is cleared by BHEL
- Column 11- Remarks - Any special remarks shall be given here.

NOTES :

1. In absence of correlation with the test certificate(s) (e.g. material identification) samples shall be drawn by BHEL and all tests as per relevant specifications shall be carried out in their presence or in recognized Government Laboratory.
2. When materials and components are initially identified and stamped by BHEL QS engineer, the identification marks shall be preserved till despatch. Wherever this is not possible, the identification mark shall be transferred to the components in the presence of BHEL QS Engineer unless otherwise agreed.
3. For castings and forgings integral test specimens shall be provided, When this is not possible for casting, they shall be poured in the presence of BHEL QS Engineer unless otherwise, if witnessing of test by BHEL is called for.
4. When welders qualified by reputed inspection agencies or statutory bodies are not available, qualification tests shall be conducted in the presence of BHEL QS Engineer.
5. This Quality Plan is liable to be modified as per the requirements of approved drawings and changes in technical specifications/drawings. If there are contradictions in respect of column 7 & 8 between this Quality Plan and the approved drawings specifications, the latter shall prevail.
6. Wherever inspection by BHELs Purchaser/Third Party/Statutory authorities are mandatory, this shall be complied with.
7. Inspection reports, log sheets, test reports/certificate. etc. shall be furnished to BHEL at the appropriate stages or at the time of final inspection, as required.
8. This Quality Plan is also applicable to spares, if any, under scope of supply of Vendor.
9. The quality plan shall be submitted in minimum 4 copies with a soft copy of the same or in line with contract requirements.

ANNEXURE-2 to Quality Plan

(LIST OF BHEL- PEM APPROVED GALVANIZERS)

SL. NO.	ITEM	VENDOR NAME	ADDRESS
1	Galvanising	Jenco Industrial Corporation	Chincholi Bunder Khkar Road Near Link Road Devruwadi Malad (W) Mumbai 400064
2	Galvanising	National Galvanizing Company	66, Barrackpore Kamarhatt Trunck Road Calcutta-700058
3	Galvanising	Sigma Galvanising Pvt. Ltd.	Plot No.C-169, TTC, MIDC Ind Area Navin Mumbai-400705
4	Galvanising	B.P. Projects PVT LTD	167A, Vivekananda Road Kolkata-700006
5	Galvanising	Standard Galvanisers	Makardah Road, Kabar Para, Bankra, Howarah -711403
6	Galvanising	Steel Products	National Highway No. 6, Chamrail, Kona, Howrah-711114
7	Galvanising	Unitech Fabricators & Engineers Pvt. Ltd	Village- Ajab Nagar, P.O. -Molla Simlla, P.S. - Singur, Dist - Hoogly, Pin-712223
8	Galvanising	Shivam Engineers & Fabricators	A0-282-284, Industrial Area, South Side of G.T. Road, Ghaziabad, U.P.
9	Galvanising	B.G. Shirke Construction Technology Pvt. Ltd	72-76, Mundhawa, Pune - 401 036
10	Galvanising	Galbro Ispat Galvanizers Pvt. Ltd.	GUT 11 AND 12, OPP. Kudus Steel,Rolling Mill, Wada, Thane , Mumbai
11	Galvanising	Eros Metals	G-97, MIDC, Bhutibori , Nagpur
12	Galvanising	Industrial Perforation (India) Pvt. Ltd.	Ganganagr, Katakhal, Kolkata-700132
13	Galvanising	Indmark Formtech Pvt. Ltd.	Phase - 3, E - 11 / 1, M. I. D. C., Chakan, Pune - 410 501, Maharashtra, India.
14	Galvanising	Namdhari Industrial Traders Pvt. Ltd.	Village Latton Dana, Chandigarh Road, Ludhiana
15	Galvanising	Neha Galvaniser	Jalan Industrial Estate, Gate No-1, 1st Right Choise Lane, Near N.G-6, Jangalpur, PO Domjur Howrah - 700071, West Bengal, India
16	Galvanising	Patny Systems (P) Ltd.	Unit-IV, Sy No. -228/9, Plot No. 6, IP Kuchavaram, Toopran(M) Dist.- Medak, Telegana - 502336
17	Galvanising	Parmar Metal Company	Survey No.207,Veraval (Shapar) Dist. Rajkot, India.
18	Galvanising	---	---
19	Galvanising	Rukmani Electrical & Fabricators Pvt. Ltd.	Urla Industrial Area, Urla Sarora Road, Raipur- 493 221 (Chhattisgarh) Shankharidaha Baniyarah, Jalan Industrial Complex, Gate no.3, Lane no. 4, Domjur, Howrah , W.B.- 71141
20	Galvanising	DMP Projects Pvt.Ltd.	Dulagarh Industrial Park , PS-Sankrail , Howrah -711302
21	Galvanising	Vinfab Engineers India Private Limited	Gut no. 224/1 &2 Bhiwandi Wada State Highway, Village khupri, Dist. Thane,
22	Galvanising	Saral Projects & Processors	B-1, Industrial Area, Site-II, Amawan Road Rae Bareli
23	Galvanising	---	---
24	Galvanising	Brahampuri Steels Limited	172 (F) Industrial Area, Jhotwara, Jaipur-302013
25	Galvanising	Indiana Gratings PVT. LTD	F-5, MIDC Jejuri, Pune-412 303
26	Galvanising	M/s AVAIDS TECHNOVATORS PVT. LTD.	131, MATSYA INDUSTRIAL AREA, ALWAR RAJASTHAN

NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE VENDOR TO GET THE MATERIAL GALVANIZED FROM THE ABOVE LIST WITHOUT ANY COMMERCIAL IMPLICATION TO BHEL.