

TENDER NO. PSER:SCT:SND-M672:06

TCN-03 DATED 05-06-2006

**JOB : ERECTION, TESTING AND COMMISSIONING OF LP & CW PIPING FOR
SANTALDIH TPS (1X250-MW).**

Following change in tender specification may be noted by the bidders :

SL	NIT reference		Modified clause
01.	BOM for CW, Instrument air & Service air piping	:	BOM for CW, Instrument air and Service air piping is attached herewith. This shall form part of tender document.

Bidders are requested to submit a copy of this TCN, duly stamped and signed, along with their offer as an acceptance. All other terms and conditions of tender remain unchanged.

(Sr. Manager – SCT)

		DOCUMENT TITLE : ESTIMATED OF PIPING & FITTINGS FOR LP PIPING AND SMALL BORE PIPING												DOC#		REV NO. : 0 03/03/2006		
		PROJECT TITLE : 1 x 250 MW SANTALDIH THERMAL POWER STATION,						PREPARED BY :			CHECKED BY			APPF				
		CUSTOMER : WEST BENGAL POWER DEVELOPMENT CORPORATION LTD																
		QUANTITY FOR ONE UNIT ONLY																
Sl. No.	LINE DESCRIPTION	DESIGN		PIPE MATERIAL	PIPE			BENDS / ELBOWS				REDUCERS		TEES		MISCELLANEOUS		REMARKS
		PRESS. Kg/cm2 (g)	Temp (°C)	Specification	OD (mm)	THK (mm)	LEN (m)	SIZE (NB)	R	f dg	No.	Size (NB)	No.	Size (NB)	No.	Size (NB)	No.	
G	Instrument Air System																	
1	Main Header	10		A312 Gr. 304	73	5.16	260	65NB	1.5D	90°	15			65x65x65	5	Nipples 65NB	4	
														65x65x50	1	Nipples 50NB	2	
														65x65x40	8	Nipples 40NB	10	
														65x65x25	20	Nipples 25NB	20	
2	Aux. Header	10		A312 Gr. 304	60.33	3.91	50	50NB	1.5D	90°	6					Nipples 15NB	80	
3	Branch connections	10		A312 Gr. 304	48.3	3.68	1000	40NB	1.5D	90°	30			40x40x25	22			
4	Branch connections including auto drain trap assembly	10		A312 Gr. 304	33.4	3.38	500	25NB	1.5D	90°	200	25x15	60	25x25x25	80			
														25x25x15	60			
5	Branch connections	10		A312 Gr. 304	21.34	2.77	500	15NB	1.5D	90°	100			15x15x15	50			
H	Service Air System																	
1	Main Header	10		A312 Gr. 304	60.33	3.91	200	50NB	1.5D	90°	15			50x50x50	2	Nipples 15NB	40	
														50x50x40	6	Nipples 15NB	30	One end threaded to suit valve, other end for connection to hose pipe
														50x50x25	14	Nipples 50NB	3	
														50x50x15	5	Nipples 40NB	4	
2	Aux. Header	10		A312 Gr. 304	48.3	3.68	1000	40NB	1.5D	90°	80	40x25	2	40x40x25	20	Nipples 25NB	17	
														40x40x15	2			
3	Branch connections	10		A312 Gr. 304	33.4	3.38	1000	25NB	1.5D	90°	150	25x15	30	25x25x25	70			
														25x25x15	70			
4	Branch connections	10		A312 Gr. 304	21.34	2.77	500	15NB	1.5D	90°	100							

PROJECT ENGINEERING MANAGEMENT

(MECHANICAL ENGINEERING DEPARTMENT)

DOCUMENT COVER SHEET



NAME OF CUSTOMER / PROJECT : WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED, KOLKATA
1 X 250 MW, SANTALDIH THERMAL POWER PROJECT
(EXTENSION UNIT – 5)

OWNER'S CONSULTANT : DEVELOPMENT CONSULTANTS PRIVATE LTD, KOL KATA

ENGINEERING SUB CONTRACTOR : FICHTNER CONSULTING ENGINEERS (INDIA) PVT. LTD.,
CHENNAI

JOB NO. : 230

DOCUMENT NO. : PE-DC-230-165-M001 SHEET : 1 OF 4

SYSTEM : MECHANICAL

TITLE : BILL OF MATERIAL - COOLING WATER PIPING

REV.	DATE	DETAILS OF REVISION	INITIAL	SIGN	INITIAL	SIGN	INITIAL	SIGN
01	23/02/05	UPDATED AS PER CW PIPING LAYOUT & LATEST P&ID	TJK		MAN		GR	
00	10/11/05	FOR INDENTING	TJK	Sd/-	MAN	Sd/-	GR	Sd/-
A	25/07/05	PRELIMINARY ISSUE	TJK	Sd/-	MAN	Sd/-	GR	Sd/-
			Prepared	Checked		Approved		

	1x250 MW SANTALDIH THERMAL POWER PROJECT EXTENSION UNIT #5	Doc. No. PE-DC-230-165-M001
		Rev. : 01
	Bill of Material - Cooling Water Piping	Page : 2 of 4

Sl. No	DESCRIPTION	SIZE (mm) NB	THICKNESS (mm) / RATING	TYPE	MATERIAL	QTY	REMARKS
	CW SYSTEM						
1	Pipe	2700	20 thk.	BE	IS 3589 Fab. From IS 2062 Gr.B	1080 m	
2	Pipe	1800	14 thk.	BE	IS 3589	110 m	
3	Pipe	1600	14 thk.	BE	IS 3589	15 m	
4	Pipe	750	6.3 thk.	BE	IS 3589	32 m	For manhole
5	90° Elbow	1800	14 thk.	BE	IS 3589	10 nos.	1.0D Mitre Bend
6	90° Elbow	2700	20 thk.	BE	IS 3589	2 Nos.	
7	45° Elbow	2700	20.0 thk.	BE	IS 3589 Fab. From IS 2062 Gr.B	12 nos.	1.0D Mitre Bend
8	45° Elbow	1800	14.0 thk.	BE	IS 3589	2 nos.	1.0D Mitre Bend
9	15° Elbow	2700	20 thk.	BE	IS 3589	4 nos.	1.0D Mitre Bend
10	Con. Reducer	2700x1800	20.0 thk.	BE	Fab. From IS 2062 Gr.B	1 no.	
11	Con. Reducer	1800x1600	14.0 thk.	BE	Fab. From IS 2062 Gr.B	3 nos.	At pump nozzle
12	Flange	750	AWWA CI-D	FF	IS 2062 Gr. B	9 nos.	For manhole
13	Blind Flange	750	AWWA CI-D	FF	IS 2062 Gr. B	9 nos.	For manhole
14	Pump Counter – Flange	1600				3 nos.	By Pump manufacturer
15	Dished end	2700			IS 2062 Gr. B	4 nos.	Torispherical
16	Butterfly valve (By Valve manufacturer)	1800	AWWA CI-D	Short Flange	Fab. From IS 2062 or CI IS210 Gr. FG 260	4 nos.	MOV with counter flanges & fasteners
17	Butterfly valve (By Valve manufacturer)	1600	AWWA CI-D	Short Flange	Fab. From IS 2062 or CI IS210 Gr. FG 260	3 nos.	Motorised pump discharge valve with counter flanges & fasteners
18	Rubber Expansion joint (Refer Note 4)	1800	As per FSA	Condenser inlet	IS 2062 Gr. B	4 nos.	Pressure balanced RE joints

	1x250 MW SANTALDIH THERMAL POWER PROJECT EXTENSION UNIT #5	Doc. No. PE-DC-230-165-M001
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Sl. No	DESCRIPTION	SIZE (mm) NB	THICKNESS (mm) / RATING	TYPE	MATERIAL	QTY	REMARKS
19	Rubber Expansion joint	1800	As per FSA	Pump discharge	IS 2062 Gr. B	3 nos.	Including counter flanges
CW Blow Down / IBD Quenching Line							
1	Pipe	200	6.0 thk.	BE	IS 3589	190 m	
2	Pipe	80	4.8 thk.	BE	IS 1239	260 m	
3	90° Elbow	200	6.0 thk.	BW	IS 3589 / CS	6 Nos.	
4	90° Elbow	80	Heavy	BW	IS 1239 / CS	10 Nos.	
5	Flange	200	125#	SOFF	CS	2 Nos.	
6	Flange	80	125#	SOFF	CS	2 Nos.	
6	Con. Reducer	200 x 100	Heavy	BW	CS	1 No.	
7	Con. Reducer	100 x 80	Heavy	BW	CS	1 No.	
CW Chlorination Tapping from Main Header							
1	Pipe	150	Heavy	BW	IS 1239	100 m	
2	90° Elbow	150	Heavy	BW	IS 1239	10 Nos.	
3	Check valve	150	125#	Dual Plate	CI	2 Nos.	PEM scope
4	Butterfly valve	150	125#	Wafer type	CI	2 Nos.	PEM scope
5	Flange	150	125#	SOFF	CS	4 Nos.	For Wafer type valves
CW Drain Discharge Line in Pump House & Drain Line in TG Hall.							
1	Pipe	100	Heavy	BW	IS 1239	30 m	
2	90° Elbow	100	Heavy	BW	IS 1239	10 Nos.	
3	Flange	100	125#	SOFF	CS	10 Nos.	
CW Initial Filling Line							
1	Pipe	250	6.0 thk.	BW	IS 3589	40 m	
2	90° Elbow	250	6.0 thk.	BW	IS 3589	4 Nos.	

FICHTNER India

	1x250 MW SANTALDIH THERMAL POWER PROJECT EXTENSION UNIT #5	Doc. No. PE-DC-230-165-M001
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Sl. No	DESCRIPTION	SIZE (mm) NB	THICKNESS (mm) / RATING	TYPE	MATERIAL	QTY	REMARKS
3	45° Elbow	250	6.0 thk.	BW	IS 3589	1 No.	
4	Flange	250	125#	SOFF	CS	4 Nos.	
5	Tee	350 x 250	6.0 thk.	Butt	CS	2 Nos.	
	Miscellaneous vents & drains						
1	Pipe	50	Heavy	BW	IS 1239	20 m	Contingency
2	90° Elbow	50	Heavy	BW	IS 1239	6 Nos.	Contingency
	CW Makeup BOM						
	Refer LP Piping BOM						

Note :

1. BOM for pressure tappings, temperature tappings hand holes if any, ARVs and fasteners shall be furnished later.
2. The above BOM is for main cooling water supply and return from pump house to cooling tower only.
3. Bill of quantities for CW Blowdown & CW chlorination has been added in this revision.
4. Elbows near condenser inlet and outlet are also considered in the Bill of materials. Based on the type of Rubber expansion joint at condenser inlet / outlet. If the elbows are also to be provided by the Rubber expansion joint manufacturer then the same shall be deleted from the above quantity.
5. Only quantity of elbows are furnished. Straight length for mitered bends shall be considered while indenting pipe length.
6. 5% margin is considered on the pipe length
7. Butterfly valve and REJ with counter flanges & fasteners will be supplied by respective vendors.