

TD-201 Rev No. 00	Form No.	 	PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION, HYDERABAD	ANNEXURE-1C to PY55223
				Rev No. 00
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PROJECT

40MW CDQ WASTE HEAT RECOVERY
CO-GENERATION POWER PLANT

CUSTOMER

M/S TATA STEEL LIMITED,
JAMSHEDPUR

CONSULTANT

TATA CONSULTING ENGINEERS,
KOLKATA

SPECIFICATION NO. TCE.7742B-C-540-001	TATA CONSULTING ENGINEERS LIMITED	SECTION: D04
	DATA SHEET B	SHEET 1 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
1.0	<u>SPECIFIC PARTICULARS</u>		
1.1	Switchgear designation		
1.2	Single front or double front	SF/DF	
1.3	Applicable Standard		
1.4	Fully drawout/semi-drawout/fixed	FD/SD/F	
1.5	Total dimensions of each complete switchgear L x W x D	mm L W D	
1.6	Width of each vertical section with cable alley	mm	
1.7	Width of cable alley only	mm	
1.8	Minimum clear space required		
1.8.1	In front	mm	
1.8.2	Back	mm	
1.9	Max. cubicle weight with components	kg	
1.10	Have all the feeders and components specified in enclosed Drawings and Data Sheets A - 3 been provided ?		YES/NO
1.11	Make		

FILE NAME: M4-219-11-Rev-R7

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SPECIFICATION NO. TCE.7742B-C-540-001	TATA CONSULTING ENGINEERS LIMITED	SECTION: D04
	DATA SHEET B	SHEET 2 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
2.0	<u>GENERAL PARTICULARS</u>		
2.1	Sheet metal thickness		
2.1.1	Cold rolled/Hot rolled		
	(a) Frames (b) Door (c) Rear Covers (d) Side and top covers (e) Panel partitions	mm mm mm mm mm	
2.2	Degree of protection provided by the enclosure (as per IS:13947 or equivalent)		
2.3	Earth busbar size	sq.mm.	GI/AL/CU
2.4	<u>BUSBAR</u>		
2.4.1	Material of busbars		AL/CU
2.4.2	Section	sq.mm	PH : N:
2.4.3	Continuous current rating under site conditions	A	
2.4.4	Whether busbars have been insulated		YES/NO
2.4.5	Type of insulation		
2.4.6	Temperature rise over the reference ambient when carrying rated current	°C	
2.4.7	Material of busbar supports		
2.4.8	Clearance in air :		
	(a) Between phases	mm	
	(b) Between phases and earth	mm	

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	DATA SHEET B	SHEET 3 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
2.4.9	Short time rating (One Sec.)	kA	
2.4.10	Momentary rating (peak)	kA	
2.5	Make of Busbars		
3.0	<u>CIRCUIT BREAKERS</u>		
3.1	Maker's name		
3.2	Maker's Type designation		
3.3	Applicable standards		
3.4	Circuit breaker type (Air break and/or MCCB)		
3.5	Rated Voltage	V	
3.6	Rated operating duty		
3.7	Rated current	A	
3.8	Derating factor for operation under site conditions		
3.9	Rated symmetrical breaking current at rated voltage. (Indicate power factor)	kA P.F.	
3.10	Rated short time withstand rating (for 1 sec.) (For MCCB, BIDDER to indicate the time)	KA	
3.11	Operating mechanism type		
3.12	Limits of voltage for satisfactory operation of the following devices as a % normal voltage.		
3.12.1	Operating mechanism	%	
3.12.2	Closing coil	%	

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	DATA SHEET B	SHEET 4 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
3.12.3	Trip coil	%	
3.13	Power required for closing at Normal voltage	W	
3.14	Power required for tripping at Normal voltage	W	
3.15	Spring charging motor details :		
3.15.1	Rating	KW	
3.15.2	Rated voltage	V AC/DC	
3.15.3	Spring charging	Sec.	
3.16	Overload release provided	Yes/No	
3.17	Short circuit release settings and time delay features		
3.18	Under voltage release settings		
3.19	Have electrical and mechanical anti-pumping features been provided	Yes/No	
3.20	Have type test certificates been enclosed	Yes/No	
4.0	<u>AIR BREAK SWITCHES</u>		
4.1	Make		
4.2	Type		
4.3	Rated Voltage	V	
4.4	Applicable standards		
4.5	Maximum prospective fault current withstand of composite unit of switch and fuse	kA (peak)	

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	DATA SHEET B	SHEET 5 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
5.0	<u>FUSES</u>		
5.1	Make		
5.2	Type		
5.3	Applicable standards		
5.4	Rated voltage	V	
5.5	Rated current for individual circuits to be provided as per requirements of protection coordination	YES/NO	
6.0	<u>CONTACTORS</u>		
6.1	Make		
6.2	Rated duty		
6.3	Rated utilization category		
6.4	Applicable standards		
6.5	Rated (thermal) current provided as per specification	YES/NO	
6.6	Rated voltage of auxiliary contacts	V	
6.7	Rated voltage of coil	V	
6.8	Rated breaking capacity	Factor of rated current	
6.9	Rated making capacity	Factor of rated current	
6.10	Limits of operation		

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	DATA SHEET B	SHEET 6 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
6.10.1	Supply voltage variation	± %	
6.10.2	Supply frequency variation for closing	± %	
6.10.3	Drop out voltage	%	
6.11	No of auxiliary contacts :		
6.11.1	Normally open		
6.11.2	Normally closed		
7.0	<u>SINGLE PHASING PREVENTERS</u>		
7.1	Is it in built-in bimetal thermal overload relay	YES/NO	
8.0	<u>CURRENT TRANSFORMERS</u>		
8.1	Make		
8.2	Applicable standards		
8.3	All other parameters of CT as per enclosed SLD/list and Section-D	YES/NO	
9.0	<u>VOLTAGE TRANSFORMERS</u>		
9.1	Make		
9.2	Applicable standards		
9.3	Ratio	V/V	
9.4	Output per phase	VA	
9.5	Accuracy class		

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	DATA SHEET B	SHEET 7 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
9.6	Over voltage factor		
9.7	Class of insulation		
10.0	<u>CONTROL TRANSFORMERS</u>		
10.1	Make		
10.2	Type		
10.3	Applicable standards		
10.4	Ratio		
10.5	Class of insulation		
10.6	Rated output	VA	
11.0	<u>INSTANTANEOUS OVERCURRENT RELAY</u>		
11.1	Application (phase fault or earth fault)		
11.2	Make		
11.3	Type designation		
11.4	Setting range		
12.0	<u>INVERSE TIME AND THERMAL OVERCURRENT RELAY</u>		
12.1	Application		
12.2	Make		
12.3	Type		

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ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
12.4	Current setting range		
12.5	Time setting range at 10 times the current setting	Sec.	
13.0	<u>UNDervOLTAGE RELAY</u>		
13.1	Make		
13.2	Type		
13.3	Voltage rating	V	
13.4	Setting range	V	
14.0	<u>AUXILIARY RELAYS AND TIMERS</u>		
14.1	Make		
14.2	Type		
14.3	Coil voltage	V	
15.0	<u>CONTROL/SELECTOR SWITCH</u>		
15.1	Make		
15.2	Type designation		
16.0	<u>VOLTMETER</u>		
16.1	Make		
16.2	Type		
16.3	Applicable standards		

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ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
16.4	Accuracy class		
17.0	<u>AMMETER</u>		
17.1	Make		
17.2	Type		
17.3	Applicable standards		
17.4	Accuracy class		
18.0	<u>WATTMETER</u>		
18.1	Make		
18.2	Type		
18.3	Applicable standard		
18.4	Accuracy class		
19.0	<u>INDICATING LAMPS</u>		
19.1	Make		
19.2	Type		
19.3	Voltage	V	
19.4	Series resistor	Ohms	
19.5	Wattage of lamp	W	
20.0	<u>PUSH BUTTONS</u>		

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ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
20.1	Make		
20.2	Type designation		
20.3	No of contacts:		
20.3.1	Normally open		
20.3.2	Normally closed		
20.4	Contact rating	A	
21.0	<u>SPACE HEATER</u>		
21.1	Make		
21.2	Type		
21.3	Rated voltage	V	
21.4	Heater output for each vertical panel	W	
21.5	Thermostat at setting °C		
22.0	<u>WIRING AND TERMINAL BLOCKS</u>		
22.1	Voltage grade		
22.2	Insulation		
22.3	Minimum size of conductor for :		
22.3.1	Power wiring	Sq.mm	
22.3.2	Control wiring	Sq.mm	

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	DATA SHEET B	SHEET 11 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
22.4	Type of terminal blocks :		
22.4.1	For withdrawable Type		
22.4.2	For Fixed type		
22.5	Minimum current rating of terminal blocks	A	
22.6	Whether terminals for CT's have been provided with short circuiting facilities	YES/NO	
23.0	<u>PUSH BUTTON STATION</u>		
23.1	Metal Enclosure :		
23.1.1	Die-cast aluminium/sheet metal of 2mm thickness		
23.1.2	Degree of protection		
23.1.3	Painting, inscription earthing terminals as specified	YES/NO	
23.2	Gland plate and cable glands provided	YES/NO	
22.3	Facility for fixing on wall/structure provided	YES/NO	
23.4	No. of Contacts :		
23.4.1	Normally open		
23.4.2	Normally closed		
23.5	Contact rating :		
23.5.1	At 415 V AC	A	
23.5.2	At 110 V AC	A	

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	DATA SHEET B	SHEET 12 OF 12
ENQUIRY NO. TCE.		BIDDER:

SL. NO.	ITEM	UNIT	TECHNICAL PARTICULARS
23.5.3	At 220 V DC	A	
23.6	Terminal blocks with identification nos. provided for external connections.	YES/NO	

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