



**TECHNICAL SPECIFICATION FOR
FUEL OIL HANDLING SYSTEM
1X800 MW WANAKBORI STPS**

SPECIFICATION NO. PE-TS-408-166-A001

VOLUME III

SECTION '7'

REVISION 00

DATE: 12/10/2015

PAGE 1 of 1

**SECTION 7
LIST OF COMMISSIONING SPARES**



**TECHNICAL SPECIFICATION FOR
FUEL OIL HANDLING SYSTEM
1X800 MW WANAKBORI STPS**

SPECIFICATION NO. PE-TS-408-166-A001

VOLUME III

SECTION '7'

REVISION 00

DATE: 12/10/2015

PAGE 1 of 1

**SECTION 7
SUGGESTIVE PRICE FORMAT**

SCHEDULE-1

1 X 800 MW WANAKBORI TPS - FUEL OIL TRANSFER & STORAGE SYSTEM

SUGGESTIVE PRICE FORMAT (MAIN PRICE)

S.No	Details of Works or Equipment/System	Total ex-works Price	ED	CST /VAT	FREIGHT	E&C Charges	Service tax/ Any other taxes /duties	TOTAL (For site price)
1	2	3	4	5	6	7	8	9 = 3 + 4 + 5 + 6 + 7 + 8
1.0	<u>Lumpsum prices</u>							
1.1.0	Lumpsum firm price for SUPPLY comprising design, engineering, manufacturing, inspection and testing at vendor's / sub-vendor's works, painting, forwarding, proper packing, shipment and delivery at project site, including freight in line with drawings / documents / test procedures to be approved by Customer / consultant, inclusive of all prevailing taxes, duties and other levies for Fuel Oil Transfer & Storage System with all accessories including electricals, control & instrumentation items, start up & commissioning spares, Mandatory spares as required for the total scope defined as per technical specification PE-TS-410-166-A001 .						NA	
1.2.0	Lumpsum firm price for Erection & commissioning comprising unloading, storage, handling and transportation at site, erection and commissioning, minor civil work as required, trial run at site, functional/demonstration Test at site and handing over to the customer in line with drawings / documents / test procedures to be approved by Customer / consultant, inclusive of all prevailing taxes, duties and other levies for Fuel Oil Transfer & Storage System as required for the total scope defined as per technical specification PE-TS-410-166-A001 .			NA				
1.3.0	Total (1.1.0 +1.2.0)							
	Notes:							
a)	<i>Bidder to note that total (for site price) indicated above at 1.3.0 shall be considered for evaluation and hence should be complete in all respect for the full scope defined under technical specification.</i>							
b)	Any item not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.							
c)	Total Lumpsum price indicated in 1.3.0 column (9) should match with summation of total prices as in [Column (7) of 1.0.0 of Schedule-2 + Column (9) of A of Schedule-3 + Column (9) of 1.2.0 of Schedule-1]							
d)	All deviations should be marked in Cost of withdrawal sheet (Schedule-4) only. Deviations marked elsewhere other than schedule of deviation shall not be taken into cognizance.							
e)	Bidder must submit prices in the Pro Forma duly filled in signed and stamped on every page without any ambiguity. The price shall be written against each item. Term such as "refer covering letter" etc. are not acceptable. Price format shall not be changed by the bidder as the bidder may get disqualified by doing so. Bidders are requested to obtain clarifications in case of any doubt before filling the price schedule in the prebid clarification stage. It is requested not to make any assumption.							

SCHEDULE-2

1 X 800 MW WANAKBORI TPS - FUEL OIL TRANSFER AND STORAGE SYSTEM

SUGGESTIVE PRICE FORMAT (SUPPLY BREAK-UP)

S.No	Details of Works or Equipment/System	Total ex-works Price	ED	CST /VAT	FREIGHT	TOTAL (For site price)	Items price %age w.r.t total supply price
1	2	3	4	5	6	7 = 3 + 4 + 5 + 6	8
1.0.0	Lumpsum firm price for SUPPLY comprising design, engineering, manufacturing, inspection and testing at vendor's / sub-vendor's works, painting, forwarding, proper packing, shipment and delivery at project site, including freight in line with drawings / documents / test procedures to be approved by Customer / consultant, inclusive of all prevailing taxes, duties and other levies for Fuel Oil Transfer & Storage System with all accessories including electricals, control & instrumentation items, start up & commissioning spares, BUT EXCLUDING MANDATORY SPARES as required for the total scope defined as per technical specification PE-TS-410-166-A001.						
2.0.0	Break up prices for items covered in clause 1.0.0 above. Prices for design, manufacture, inspection & testing at manufacturers works & supply of following items.						
2.1.0	Lump sum price for steel plates for HFO Tanks, LDO tanks and drain oil tank including floor coil heater						Column (7) of this clause shall be within 13-15 % of Total price at column (7) of Clause 1.0.0
2.2.0	Lump sum price for structural steels including flanges, hand rails, gratings etc for FOHS.						Column (7) of this clause shall be within 2-4 % of Total price at column (7) of 1.0.0
2.3.0	Lump sum price for HFO & LDO Pipe & Fittings (excluding insulation & cladding)						Column (7) of this clause shall be within 18-20 % of Total price at column (7) of 1.0.0
2.4.0	Lump sum price for Steam & Condensate Pipe & Fittings (excluding inulation & cladding)						Column (7) of this clause shall be within 5-7 % of Total price at column (7) of 1.0.0
2.5.0	Lump sum price for Air, oily water & others types of pipes & fittings Fittings						Column (7) of these clauses shall be within 16-18 % of Total price at column (7) of 1.0.0
2.6.0	Lump sum price for Valves (Ball / Plug / Gate / check / Globe / others) in HFO & LDO line						
2.7.0	Lump sum price for Valves (Gate / check / Globe / others) in steam & condensate line						
2.8.0	Lump sum price for Valves in Water and air line						
2.9.0	Lump sum price for Steam Trap						Column (7) of these clauses shall be within 11-14 % of Total price at column (7) of 1.0.0
2.10.0	Lump sum price for HFO transfer Pumps with motor (4 nos, cap. 125 cum/hr)						
2.11.0	Lump sum price for HFO transfer Pumps Strainers						
2.12.0	Lump sum price for LDO transfer Pump with motor (4 nos, cap. 125 cum/hr)						
2.13.0	Lump sum price for LDO transfer Pumps Strainers						
2.14.0	Lump sum price for Drain Oil pump motor set (as applicable) complete in all respect						
2.15.0	Lump sum price for Sump pump motor set (as applicable) in pump house and water pit of OWS (2 nos) complete in all respect						
2.16.0	Lump sum price for recovery Oil pump motor set (as applicable) in oil pit of OWS , complete in all respect						

SCHEDULE-3

1 X 800 MW WANAKBORI TPS - FUEL OIL TRANSFER & STORAGE SYSTEM

SUGGESTIVE PRICE FORMAT (MANDATORY SPARES)

S.No	Details of Works or Equipment/System	Unit Ex-works price	Unit & Qty	Total ex-works Price	ED	CST /VAT	FREIGHT	TOTAL (For site price)
1	2	3	4	5	6	7	8	9=5+6+7+8
	Fuel Oil System							
1	Tanks & Pumps							
1.1	Suction Heater Gaskets							
1.1.1	For LDO/HFO Day Tanks		4 sets					
1.2	Suction Heater Nuts and Bolts							
1.2.1	For LDO/HFO Day Tanks		Lot					
1.3	Pump suction Strainer Basket		3 Nos. for each type					
1.4	Pump suction Strainer Gasket		6 Nos. for each type					
1.5	Pump O-Ring and Gasket		12 Nos. for each type					
1.6	Various types of Gland packing for valves		Lot for each type					
1.7	Pump Screw		3 Nos. for each type					
1.8	Pump and Motor Bearing							
1.8.1	For HFO & LDO transfer pump		4 sets for each pump					
1.8.2	For Drain Oil Pump		2 sets					
1.9	Relief Valve Spring		1 No. each					
1.9.1	For HFO & LDO transfer pump		3 nos.					
1.9.2	For Drain Oil Pump		3 nos.					
1.1	Suction Heater Heating Element		1 No.					
1.11	Mat Coil Heater – Heating Element		2 sections					
1.19	Thermodynamic traps		5 Nos.					
1.2	Inverted Bucket type traps		2 Nos.					
2	Electrical Items for 3.3KV, 415V System & DC		Items indicated below:					
2.1.0	415 Volt Motor (above 30KW Rating upto 160KW)							
2.1.1	End Shield Cover Driving & Non-Driving End		1Set for each type and rating of Motor					

2.1.2	Driving End & Non-Driving End Bearing		1Set for each type and rating of Motor					
2.1.3	Cooling Fan		1No. for each type and rating of Motor					
2.1.4	Motor Space Heater		1No. for each type and rating of Motor					
2.1.5	Motor Terminal Block		1No. for each type and rating of Motor					
2.1.6	Complete Set of Coupling		1Set for each Application					
2.2.0	415 Volt Motor (Upto 30KW Rating)							
2.2.1	Driving End & Non-Driving End Bearing		3 Set for each type and rating of Motor					
2.2.2	Cooling Fan		2 No. for each type and rating of Motor					
2.2.3	Motor Terminal Block		5 No. for each type and rating of Motor					
2.2.4	Complete Set of Coupling		1 Set for each Application					
2.3.0	ACDB (as applicable)							
2.3.1	Contactor							
2.3.1.1	Power Contactor (AC)							
2.3.1.1.1	Power Contactor Complete Assembly		4 Nos.for each type and rating					
2.3.1.1.2	Power Contactor spare kits		10Sets for each type and rating					
2.3.1.1.3	Power Contactor AC Coils		10Nos. Coils for each type and rating					
2.3.1.2	Auxiliary Control Contactor (AC)							
2.3.1.2.1	Auxiliary Control Contactor Complete Assembly		30 Nos.for each type and rating					
2.3.1.2.2	Auxiliary Control Contactor spare kits		40 Sets for each type and rating					
2.3.1.2.3	Auxiliary Control Contactor AC Coils		35 Nos.for each type and rating					
2.3.2	MCCB (Power Circuit)		5 Nos. for each type and rating					
2.3.3	MCB (Control Circuit)		25 Nos.for each type and rating					
2.3.4	Switch							
2.3.4.1	Local / Remote Selector Switch		10Nos.					
2.3.4.2	MCCB Status (On/off) Monitoring Switch/Contact		5Nos.					
2.3.4.3	Trial / Normal /MCC Selector Switch		15Nos.					
2.3.4.4	MCC module Service Position Limit Switch		5Nos.					
2.3.5	Thermal Overload Relay		5Nos. for each type and rating					

2.3.6	Sliding Contact (Fixed & Moving)		25Sets					
2.3.7	BUS bar to MCC module Lira contact assembly (BUS end & MCC module end)		5 sets for each type and rating					
2.3.8	Indicating Lamps complete assembly							
2.3.8.1	Red		30Sets					
2.3.8.2	Amber		30Sets					
2.3.8.3	Green		30Sets					
2.3.9	Push Button (On/Off) Complete Assembly		20Sets					
2.3.10	CT		1No.for each type and rating					
2.3.11	Ammeter		1No. for each type and rating					
2.3.12	Control transformer		1No. for each type and rating					
2.3.13	Off Delay/ On Delay Timer		5Nos.for each type and rating					
2.3.14	Switch Fuse Unit		5Nos.for each type and rating					
2.3.15	Terminal Block							
2.3.15.1	Power Terminal Block		10% of total nos. for each type and rating used in the system or minimum one (1) no. whichever is more					
2.3.15.2	Control Terminal Block		10% of total nos. for each type and rating used in the system or minimum one (1) no. whichever is more					
2.3.15.3	End Plate for Power & Control Terminal Block		Each type 25Nos.					
2.4	Energy Meter		1No. For each type &rating					
3 Control Panel/Desk Mounted Items								
3.1	Push Button							
3.1.1	Complete assembly		5Nos for each colour					
3.1.2	Contact Element (1NO + 1NC) Block		20Nos.					
3.2	Selector Switch		10Nos. for each type and rating					
3.3	Meter (Analog or Digital)							
3.3.1	Ammeter		10% for each type and range or minimum one (1) no. whichever is more					
3.3.2	Voltmeter		10% for each type and range or minimum one (1) no. whichever is more					

3.3.3	Frequency		10% for each type and range or minimum one (1) no. whichever is more					
3.3.4	MW		10% for each type and range or minimum one (1) no. whichever is more					
3.3.5	MVAR		10% for each type and range or minimum one (1) no. whichever is more					
3.3.6	Power Factor		10% for each type and range or minimum one (1) no. whichever is more					
3.3.7	Synchroscope		10% for each type and range or minimum one (1) no. whichever is more					
3.4	Indicating Lamps complete assembly		10Nos. for each Colour and type					
3.5	Mimic Lamps		10Nos. for each Colour and type					
3.6	MCB		2Nos. for each type and rating					
3.7	Door Limit Switch		2Nos.					
3.8	Annunciation system							
3.8.1	Lamp Box with Facia & Lamps (LED type)		25Nos.					
3.8.2	Hooter		1No					
3.8.3	Each type of PCB (for non-PLC driven system)		1No					
4	Actuator							
4.1	Complete set of Actuator		1No. for each type and rating					
4.2	Limit Switch		2 Nos each type and rating					
4.3	Torque Switch		2 Nos each type and rating					
4.4	Auxiliary Contact		1 no each type and rating					
4.5	Motor		1 no each type and rating					
4.6	Complete Seal kit		1Set for each type and rating					
4.7	Complete O-Ring Set		1Set					
5	Field Instruments (Transmitters/temperature elements (TC / RTD) / Gauges / Switches etc. along with relevant accessories)		10 (ten) percent of total of each type or at least one (whichever is higher) of each type along with accessories.					
6	Valves, Actuators & Accessories							