



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT

PROJECT : PE/PG/UPP/E-5780/2017
PACKAGE : FUEL OIL HANDLING & STORAGE SYSTEM [FOHS]
TENDER ENQUIRY NO.: PE/PG/UPP/E-5780/2017 Dt. 28.11.2017.

DATE: - 12.12.2017

Corrigendum-01

In reference to the above mentioned tender enquiry for **FUEL OIL HANDLING & STORAGE SYSTEM [FOHS]** package, there are reply of pre bid queries as appended below:

All the other terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Bidders are requested to ensure submission of offer on or before due date.

Regards

Vinit Kumar Verma
Dy. Mgr./ PG-BOP

PRE BID CLARIFICATION SCHEDULE				
Project:	2 x 800MW UPPUR STPP. (STAGE-I, UNIT # 1&2)			
Package:	FUEL OIL HANDLING SYSTEM			
Sr.No.	Section/Clause/ Page No.	Statement of the referred clause	Clarification/ Confirm ation required	PEM CLARIFICATION
1	PE-TS-425-166-A001, Rev 00 / Section IA / Clause 1.1.0 / pg 20 of 200	5) Pipes from HSD tank to FO pump house and return including inlet piping to HSD tank from FO pump house will be free issued to bidder.	From the referred clause we understood that Pipes will be free issued to bidder. However please clarify the scope of supply and application of paints for these free issued pipes. Also clarify the scope of supply of fittings for these pipes.	The specification is clear w.r.t. scope of supply. Bidder to furnish its offer accordingly. As per the referred clause, BHEL shall provide pipes for successful bidder, i.e. Pipes from HSD tank to FO pump house and return including inlet piping to HSD tank from FO pump house. Other than this, E&C of this piping, along with supply of pipes inside tank, fittings, flanges, painting is in Bidder scope of supply.
2	PE-TS-425-166-A001, Rev 00 / Section IA / Clause 2.2.0 / pg 22 of 200	Exclusions	We presume that the following are also excluded from our scope of supply. 1. HSD unloading station 2. Unloading pumps, stainers, instruments, valves and internal piping. 3. HSD Storage tank, valves and instruments. 4. Interconnection piping between unloading station to unloading and pumping system and pumping system to HSD ST tank.	The specification is clear w.r.t. scope of supply. Bidder to furnish its offer accordingly.
3	PE-TS-425-166-A001, Rev 00 / Section IA / Clause4.0 / pg 23 of 200	Terminal points Bidder to plan the layout and size the pipe between storage tank and P&H unit in a manner so as to ensure availability of above TP pressure 1.5 Kg/cm2 (a) limiting the tank foundation height for storage tanks to 1 m and the P&H unit FFL approx. 500 mm above ground level	Please provide the outlet flow rate and velocity criteria to calculate the size.	Pipe sizes are specified by BHEL, pl. refer page 42 of 305 of technical specification.
4	PE-TS-425-166-A001, Rev 00 / Section IB / Clause 6.1 / pg 40 of 200	Data sheet of Float and Board type Level Indicator: As per Tender Specification, Volume V clause no. 3.03.14 of C & I System.	Referred clause (6.1) calls for a data sheet of F&B type level indicator. Purchaser asked to refer volume V clause no. 3.03.14 of C&I system for the same. However in the purchasers referred clause data sheet for radar type level transmitter is given. We understood that it is a typographical error. However we are considering F&B Level Indicator data sheet given in sec IC, cl 6.2. Please confirm.	Bidder to refer clause no. 3.03.22 (page 118 of 305) for Level Indicator & Clause no. 3.03.14 (page 140 of 305) for Level transmitter.
	PE-TS-425-166-A001, Rev 00 / Section IC / Clause 6.2 / pg 54 of 200	FLOAT & BOARD TYPE LEVEL INDICATOR (as per cl.no. 3.03.22, Vol - V)		As per scope, BHEL have also asked for level transmitters for HSD day tank and for the same Radar type level transmitter to be provided as per Clause no. 3.03.14 (page 140 of 305).
5	PE-TS-425-166-A001, Rev 00 / Section IB / Clause 6.2 / pg 40 of 200	Pipes, Fittings, Flanges & Accessories : 1. Pipe: Fuel oil - 65 NB & above: API 5L Gr.B or A106 Gr.B Butt Welded for pipe; near equipment, this shall be of flanged type 50Nb and Below: Socket welding; near equipment this may be either socket welded or flanged.	The thickness for API 5L ERW pipes and A106 Gr.B SMLS pipes are not mentioned in the referred clause. However please clarify whether we can consider pipe thickness given in Volume III (mechanical works) clause no. 13.4.2 pg no. 82 of 200 for the same.	Noted. For pipes in bidder's scope, bidder to refer clause no. 13.4.2 pg no. 82 of 305 of technical specification.
	Volume III / clause 13.4.2 / pg 82 of 200	Piping wall Thickness		
6	PE-TS-425-166-A001, Rev 00 / Section IC / Clause 6.1 / pg 53 of 200	6.1) Datasheet of Miscellaneous Tank (Condensate Storage Tanks) 2. Type of construction : Vertical cylindrical storage tank	From the referred clause type of construction of condensate storage tank is given as vertical cylindrical type and the design code given as IS803/API 650/IS10987. IS10987 is a design code for Horizontal cylindrical tank. Hence IS 10987 is not applicable for this condensate storage tank. Please confirm.	Bidder to note that for certival tanks, bidder to refer design standards IS803 / API 650.
	PE-TS-425-166-A001, Rev 00 / Section IC / Clause 6.1 / pg 54 of 200	Note: 1) All the tanks shall be designed with IS803/API 650/IS10987.		
7	PE-TS-425-166-A001, Rev 00 / Section IC / Clause 6.3 / pg 55 of 200	Pipes, Fittings, Flanges & Accessories 2.0 SS Fittings(Elbow, Tees & Reducers): 2.1) 50NB and below - Forged Stainless steel as per ASTM A 182, F 304 2.2) 65 NB and above - Stainless Steel as per ASTM A 351, CF8	Both referred clauses are contradicting each other in MOC of fittings. Please clarify the same.	Bidder to refer clause 13.8.6, page 86 of 305 for fitting MOC.
	Volume III / clause 13.8.6 / pg 86 of 200	Stainless steel fittings shall conform to either ASTM A 182, Gr. 304 (316 for sea water application if any) or ASTM A 403 Gr. WP 304 (316 for sea water application if any) class S, for sizes up to and including 50NB i.e; the fitting shall be seamless construction. However, for stainless steel fitting above 50NB , the same shall be confirm to ASTM A 403 Gr WP 304 (316 for sea water application if any) class W i.e; the fitting shall be welded construction strictly accordance with ASTM A 403		
8	PE-TS-425-166-A001, Rev 00 / Section IC / Clause 6.3 / pg 55 of 200	Pipes, Fittings, Flanges & Accessories 3.0 SS Flanges: 3.1) For SS Pipes up to 50 NB - ASTM A 182 F 304 3.2) For SS Pipes above 50 NB - ASTM A 403 Gr. 304	Both referred clauses are contradicting each other in MOC of flanges. Please clarify the same.	Bidder to refer clause 13.9.0, page 86 of 305 for flange MOC.
	Volume III / clause 13.9.00 / pg 86 of 200	Flanges : All flanges and flanged drilling shall be ANSI B 16.5 / BS EN - 1092 of relevant pressure/temperature class. Flanges shall be fabricated from steel plates conforming to ASTM A 105/IS 2062 Gr.B. However stainless steel shall be fabricated from SS plates to ASTM A 240, Gr.304 or equivalent.		
9	PE-TS-425-166-A001, Rev 00 / Section IB / Clause 6.2 / pg 40 of 200	Pipes, Fittings, Flanges & Accessories : 1. Pipe: Fuel oil - 65 NB & above: API 5L Gr.B or A106 Gr.B Butt Welded for pipe; near equipment, this shall be of flanged type 50Nb and Below: Socket welding; near equipment this may be either socket welded or flanged.	Both referred clauses are contradicting each other for MOC of pipes. Please clarify the same.	Bidder to refer clause 6.2, page 40 of 305 for pipe MOC.
	Volume III / clause 13.3.6 / pg 80 of 200	Material of construction for pipes carrying various fluids shall be as follows: 8. Fuel oil piping : API 5L 10. Fuel oil unloading lines : IS 1239 / IS 1978 / API 5L GR B (ERW) / IS 3589 fabricated from IS 2062 plates. 11. Fuel oil pump discharge lines : ASTM A 106 Gr.B		
10	PE-TS-425-166-A001, Rev 00 / pg 45 of 200	Annexure - I : Painting specification for HSD Day Oil Tank	Referred clauses are contradicting each other regarding internal painting of tanks. Please clarify which specification to be consider for HSD and condensate storage tanks.	Bidder to refer page 45 of 305 for painting for HSD day tank, page 58 of 305 for paining for CST tank. For other components refer page 108 of 305 oftechnical specification.
	PE-TS-425-166-A001, Rev 00 / Section- IC / pg 58 of 200	Annexure - I : Painting for Condensate storage tank		
	Volume II / clause 6.3 / pg 108 of 200	Painting of indoor components such as valves, pumps, motors, electrical parts, tanks etc.		
11	PE-TS-425-166-A001, Rev 00 / pg 45 of 200	Annexure - I : Painting specification for HSD Day Oil Tank (Structural and piping)	Referred clauses are contradicting each other regarding internal painting and structural of tanks. Please clarify which specification to be consider for HSD and condensate.	Bidder to refer page 45 of 305 for painting for HSD day tank, page 58 of 305 for paining for CST tank. For other components refer page 108 of 305 oftechnical specification.
	PE-TS-425-166-A001, Rev 00 / Section- IC / pg 58 of 200	Annexure - I : Painting for Condensate storage tank (Structural and piping)		
	Volume II / clause 6.6.2 / pg 113 of 200	Overground Piping - External surfaces		
12	PE-TS-425-166-A001, Rev 00 / Section- IB / pg 41 of 200	7. Mandatory spares - HSD Day tanks	Mandatory spares for HSD day tank and condensate storage tank are given in the respective referred sections and we are considering the same.	Bidder to refer page nos. 41, 56 & 62 of 305 of technical specification for mandatory spare list which is the quantified list of the mandatory spares specified at sl. no. 178 of 305 of technical specification. However for control valve detailed list for mandatory spares, clause no. 1.00.13 of page 184 of 305 is also to be considered.
	PE-TS-425-166-A001, Rev 00 / Section- IC / pg 56 of 200	7. Mandatory spares - Condensate storage tank	However Madatory spares list - BTG Package given in pg 178 of 200 is not relevant to our package, hence we are considering the same in our scope. Please confirm.	
	TECHNICAL SPECIFICATION (C&I) FOR FUEL OIL HANDLING SYSTEM & MISC. TANKS(CST) / pg 178 of 200	MANDATORY SPARES LIST - BTG package		
13	Volume III / clause 13.12.2 / pg 88 of 200	Overground Piping : Internal surfaces	Referred clauses calls for internal surface painting of pipes which is not applicable. Hence we are not considering the same. Please confirm.	Bidder to comply specification requirement.
	Volume II / clause 6.2.2 / pg 113 of 200	Overground Piping : Internal surfaces		
14	PE-TS-425-166-A001, Rev 00 / pg 46 of 105	Annexure A (plate shell thickness calculation) for HSD day tank	HSD Day tank and Condensate storage tank thickness is given in the referred calculations(6mm and 8mm). However in the standard specification (referred clause) says that plate thickness should not be less than 8mm thk. Please clarify whether we can consider the thickness as per your design calculations or we have to go as per the referred clause only.	Bidder to note that the plate thickness shall be as per design calculation at pages 46 & 60 of 305 of technical specification or higher as calculated by bidder.
	PE-TS-425-166-A001, Rev 00 / pg 60 of 105	Annexure - III (Tank design calculation for plate thickness) for condensate tank		
	PE-TS-425-166-A001, Rev 00 / clause 3.2.6 / Section- IIA / pg 10 of 105	Standard Tank specification : Each shell course shall be of uniform width throughout longitudinal weld in plates. Make up for the course width shall not be permitted. Shell plates in each course width shall be so arranged that all vertical joints be staggered having a minimum of 600 mm stagger. Shell thickness could be reduced in upper courses depending on design requirements but in no case the plate thickness shall be less than 8 mm		