

SCHEDULE OF PREBID CLARIFICATIONS

SL NO.	VOLUME/SECTION	CLAUSE NO.	PAGE NO.	SPECIFICATION REQUIREMENT	CLARIFICATIONS	REASON FOR CLARIFICATIONS	BHEL REPLIES
1)	PE-TS-411-158A-A001 Volume II B SECTION – IA PE-TS-411-158A-A001 Volume II B SECTION-IA Data sheet A	2.0 (xli) OR 9.0	Page 7 OR Page 166	One set of (2 x 100% Capacity) centrifugal type blower with acoustic enclosures for clarifier Sludge sump. OR DATASHEET A FOR PT PLANT Air blower for sludge pit Type: Centrifugal Twin Lobe Type	Please note that we have considered twin lobe type air blower for sludge pit as specified in the Data sheet A Please confirm.	Please note that sludge pit blowers will always twin lobe type as the same due to low flow & high head.	Bidder to follow technical specification.
2)	PE-TS-411-158A-A001 Volume II B SECTION –IA	5.0 Or 17.0	Page 9 Page 15 & 16	5.0 SCOPE OF SERVICE b) Complete civil design of Entire Pre-treatment plant (excluding Chemical house building and centrifuge shed/building). 17.0 CIVIL DESIGN EVALUATION CRITERIA: b) The evaluation shall be done as per the following: □ Bidder to consider all Civil structural & related work (except Chemical house) as defined in tender specification for quoting the concrete and reinforcement quantity.	As per scope of service civil design of chemical house and centrifuge building is not in the scope of bidder. Hence We understand that Bidder has to submit concrete and reinforcement quantity for pre-treatment plant except chemical house and centrifuge building. The concrete and reinforcement quantity for Chemical house and centrifuge building will not be considered for civil design evaluation. And also please provide the loading value of the same.	As the civil design is not in the scope of bidder for the centrifuge building, concrete and reinforcement quantity will not be considered for evaluation. Evaluation loading figures are not mentioned in tender.	Noted. Bidder to refer “FORMAT FOR STEEL AND CONCRETE QUOTE” enclosed in corrigenda-1 uploaded at BHEL tender site.
3)	PE-TS-411-158A-A001 Volume II B SECTION –IA	2.0	Page 5	BROAD SCOPE OF SUPPLY xlix. One (1) number Electrically Operated Monorail Hoist of 1.0 Ton (minimum) safe working capacity and complete with all accessories for handling of Sludge Transfer Pumps within	Tender is silent about the civil design scope of clarifier sludge transfer pump's pump house. Please clarify	Tender is silent about of sludge transfer pump's pump house	Bidder to follow technical specification.

				Sludge Sump cum Pump House.			
4)	PE-TS-411-158A-A001 Volume II B SECTION –IA	5.0 10	Page 9 Page 11	SCOPE OF SERVICE Arrangement of all Instruments and Lab Facilities, Chemicals and Reagents to carry out trial run/maintenance commissioning and Demonstration test 10.0 EXCLUSIONS f) Chemicals required for PT Plant.	We understand that the chemical mentioned in scope of service is lab chemicals and reagents. The operational chemical required for pre-treatment plant for commissioning and demonstration test is excluded from bidder's scope.	As per exclusions, chemicals required for PT plant is excluded from bidder's scope.	Bidder's understanding is correct.
5)	PE-TS-411-158A-A001 Volume II B SECTION –IA	6.0	9	6.0 TERMINAL POINT Piping upto RW chlorination plant (placed adjacent chemical house of PTP):- 80m from filtered water overhead tank.	Please clarify the line size to be considered. We understand that the same is 50 NB. Please confirm.	In the absence of the line size mentioned or flow required for raw water chlorination in the tender documents we understand that the same is 50 NB. Please confirm.	Flow to RW chlorination plant shall be 10 m3/hr.
6)	PE-TS-411-158A-A001 Volume II B SECTION –IA	1.10	Page 14 of 806	14.0 CONTROL PHILOSOPHY Motor operated sluice gate shall be controlled w.r.t. the water level in Clarified Water Storage Tank i.e, in case one compartment of clarified water storage tank is full then the inlet valve of this compartment will be closed and the inlet valve of other compartment will be open. The inlet sluice gate of clarified water storage tank shall be motor operated. OR FLOW DIAGRAM OF PT PLANT	We understand that the inlet gates in the clarified water tank is manual in line with flow diagram for pre-treatment plant. Please confirm.	Please note that there is contradiction in the tender documents & P&ID. As per Flow diagram. Normally selecting of the clarified water tank compartment done manually based on the operator convenience. Hence we do not recommend motorised gates.	Inlet gates in the clarified water tank are motor operated in line with sl.no 14.0 control philosophy at pg.no. 12 of technical specification.

7)	PE-TS-411-158A-A001 Volume II B SECTION –IA	1. II.	Page 113	Bidder to note that guaranteed auxiliary power consumption value for station (in KW) for PT and DM plant shall be well within the values given below: a) PRE-TREATMENT PLANT – 100 KW (for all continuous drives considering two nos. clarifier working at a time)	Please note that the auxiliary power consumption will be guaranteed at motor input terminal and not at the station.	Electrical scope is only up to the motors. Cables are in client's scope.	Bidder to follow technical specification.
8)	PE-TS-411-158A-A001 Volume II B SECTION –IA Data sheet A	5.0	165	DATASHEET A FOR PT PLANT INLET CHAMBER 5.5 Agitator (MOC: SS 304) One (1) for each inlet chamber	Please note that we do not envisage the requirement of agitators for Inlet chamber. Please confirm.	Please note that HRSCC has inbuilt flash mixer (Turbine) so we do not envisage the requirement of agitator for inlet chamber. Please confirm.	Bidder to follow technical specification.
9)	PE-TS-411-158A-A001 Volume II B SECTION –IA Data sheet A	6.0	165	6.0 HRSCC (HIGH RATE SOLID CONTACT CLARIFIER) 6.9 Flocculation agitator	HRSCC will have turbine in draft tube and there will not be any flocculator (Floccualtion agitator). Hence We understand that the same is turbine (in the feed well) and it is one number per clarifier.	Floccualtion agitator is provided in clariflocculator and not in HRSCC	Bidder to follow technical specification.
	Electrical and instrumentation						
10)	PE-TS-411-158A-A001 Volume II B SECTION-IB		184	ELECTRICAL SCOPE MATRIX PACKAGES : DM/ PTP/ CHLORINATION/ ETP/ CWTP/STP Power cables, control cables and screened control cables for a) both end equipment in BHEL's scope b) both end equipment in vendor's scope c) one end equipment in vendor's scope scope of supply BHEL	We understand that Inst /Signal cable required between inst to JB by Bidder and JB to PLC by BHEL	As per scope matrix Screened Control Cable by BHEL	Bidder to follow technical specification.

11)	PE-TS-411-158A-A001 Volume II B SECTION-IB		184 Or 187	ELECTRICAL SCOPE BETWEEN BHEL AND VENDOR(FOR EPC PROJECTS) PACKAGES : DM/ PTP/ CHLORINATION/ ETP/ CWTP/STP STANDARD ELECTRICAL SCOPE BETWEEN BHEL AND VENDOR (FOR EPC PROJECTS) PACKAGE: PRE-TREATMENT	We understand that the electrical scope matrix between BHEL and Vendor for the pretreatment plant will be as per scope Matrix mentioned in page 184 and 185 Scope matrix mentioned on Page 187 is only for Electric Hoist For PT Plant	As there is contradiction between the two scope matrixes.	Bidder to note that page no. 184 to 186 Electrical scope between BHEL and vendor (For EPC projects) shall be followed for complete PT plant however page no. 187 Standard Electrical scope between BHEL and vendor (For EPC projects) shall be followed for electric hoist only applicable for PT plant.
12)	PE-TS-411-158A-A001 Volume II B SECTION-IC		191	SENSOR REDUNDANCY 1. Two out of three measurements philosophy shall be adopted for all CLCS (Closed Loop Control System) and Protection for reliability of operation. 3. For OLCS (Open Loop Control System) all sensors used for the protection shall be triple redundant All sensors for permissive and interlock shall be dual redundant.	Please provide list of instruments which require redundancy sensor. Otherwise the same shall be as per tender P&ID. Redundancy Measurement scheme shall have huge price implication which leads to add on cost after award of contract.	There is no redundant measurement shown in the P&ID.	Bidder to follow the specification. The Instrumentation furnished in the PID is a minimum requirement however any instrument required for completeness of the system shall be provided by bidder without any cost implication. The requirement shall be decided during detailed engineering.
13)	PE-TS-411-158A-A001 Volume II B SECTION-IC		193	Remote I/O Remote I/O panels shall be provided by bidder with pushbuttons, indicating lamps and hardwired annunciation System for local control/ operations.	All Instruments are Located within battery limit of PT Plant, Hence We do not envisage any Remote I/O Panel in our scope of supply. Kindly conform the same	As Per PLC Configuration PTP System (Ref Pg 195) Drawing no PE-DM-411-145-1900. No RIO panel is Shown in drawing.	Noted
14)	PE-TS-411-158A-A001 Volume II B Section D	3.9.1	321 of 806	PLC Panel and I/O Cabinets: PLC system shall be provided with 2x100% UPS fed from Two Nos. redundant 415V, 3-ph feeders, as per the scheme PE-SD-999-145-001, sh-08 of 08. Each UPS shall have 30 minutes back up. Input feeder failure shall be monitored in	There Is contradiction between Two Statements regarding Back up Time. Hence we have considered 30 Min Back up Time. Kindly Conform the same.	We are unable to Locate Drawing with the scheme PE-SD-999-145-001, sh-08 of 08. This is for better clarity.	Please note that the back-up time is 60 min.

			Or 355 of 806	the PLC system. Necessary redundant power pack and transformers shall be provided (in the PLC panel) to derive the power supply for control desk, PLC panel and input / output cabinets etc Or UPS scheme (PE-DG-411-145-1004) 1x100% capacity Lead Acid Plante Back up 60 Min			
15)	PE-TS-411-158A-A001 Volume II B SECTION – IIC	2.00.00	392 / Page 366 of 806	HAND HELD CALIBARATORS Hand held calibrators (5 nos. for each type) shall be provided for Adjustment/ calibration/ maintenance of the HART compatible transmitters. The hand held calibrator shall be suitable for all types of transmitters supplied in the package. If one type of hand held type calibrator is not suitable for communicating with all types of transmitters then separate hand held calibrator will be provided.	Total Qty of instruments in PT are very less , Hence 1 no Hand held calibrator is sufficient to meet requirement for calibration/maintenance of Complete PT System. Please confirm.	Number of calibrators is on higher side for PT System.	No hand held calibrator is required.
16)	PE-TS-411-158A-A001 Volume II B SECTION – IIC	2.03.00	399 of 806	Back up panel	We understand that there is no backup panel is required for PT Plant as per PLC configuration diagram. Kindly Conform the same.	As Per PLC Configuration PTP System (Ref Pg 195) Drawing no PE-DM-411-145-1900. No backup panel is Shown in drawing.	Noted.
17)	PE-TS-411-158A-A001 Volume II B SECTION – IIC		418 of 806	Cable BOQ	We understand that referred table of Cable BOQ is given for information of applicable cable types for this project. But quantity shall be as per as per PT plant actual requirement based on electrical scope matrix.	As per electrical scope matrix cable shall be in BHEL Scope. This is for Better Clarity.	Bidder to follow technical specification.
	Civil						

18)	PE-TS-411-158A-A001 Volume II B SECTION – IID	1.2.2	456	1.2.2 Grade level	Please provide contour map for proposed site	As bidder need to quote total concrete & reinforcement quantity, please provide contour map for proposed site which is required for designing and estimation of above.	Please refer contour Map.
19)	PE-TS-411-158A-A001 Volume II B SECTION – IID	1.2.3	456	1.2.3 Soil Condition and Ground Water Level & HFL	Please provide detailed geotechnical report for the proposed plant location. To enable us to bid competitive offer.	As bidder need to quote total concrete & reinforcement quantity, please provide contour map for proposed site which is required for designing and estimation of above.	Please refer contour Map. For geotechnical report please refer Annexure-A.
20)	PE-TS-411-158A-A001 Volume II B SECTION – IID	1.2.3	456	1.2.3 Soil Condition and Ground Water Level & HFL	Please provide the natural ground level.	As bidder need to quote total concrete & reinforcement quantity, please provide NGL for proposed site which is required for designing and estimation of above.	Please refer contour Map for NGL.

SL NO.	VOLUME	SECTION	CLAUSE NO.	PAGE NO.	SPECIFICATION REQUIREMENT	CLARIFICATIONS	REASON FOR CLARIFICATIONS	BHEL REPLIES (CIVIL REPLY 01/05/2017)
1	SPECIFICATION NO. PE-TS-411-158A-A001	SECTION – IID GENERAL TECHNICAL REQUIREMENT (CIVIL)	4.1.1	472	4.1 REINFORCED CONCRETE STRUCTURES 4.1.1 GENERAL The grade of concrete for various structures shall be as follows; RCC in foundations/ Water retaining Structures M25	As per IS:3370 Minimum grade of concrete for water retaining structures shall be M30.	Kindly clarify which grade of concrete shall be used for water retaining structures, as per tender M-25 or As per IS3370 M-30.	as per cl. 4.1.1 all Water retaining RCC Structures shall be designed in accordance to IS: 3370 (Code of practice for concrete structures for the storage of liquids) by Working Stress Method. Although as per 3370, minimum grade of mix concrete shall be considered M30.
2	SPECIFICATION NO. PE-TS-411-158A-A001	SECTION - IA SPECIFIC TECHNICAL REQUIREMENTS (MECHANICAL)	10.0	11	10.0 EXCLUSIONS c) Civil works at site. e) All civil construction Works at site.	Geotechnical investigation, topography survey and levelling shall be in clients scope	Since all civil construction work is in BHEL scope, Geotechnical investigation, topography survey and levelling for proposed plant shall be in BHEL scope please confirm.	Noted.
3	SPECIFICATION NO. PE-TS-411-158A-A001	SECTION - IA SPECIFIC TECHNICAL REQUIREMENTS (MECHANICAL)	5.0	9	5.0 SCOPE OF SERVICE b) Complete civil design of Entire Pretreatment plant (excluding Chemical house building and centrifuge shed/building).	Please provide geotechnical report, topography survey map and levelling drawing for proposed plant.	Since civil design is in bidder scope	Refer Geo- technical investigation report. Please refer annexure-A
4	SPECIFICATION NO. PE-TS-411-158A-A001	SECTION - IA SPECIFIC TECHNICAL REQUIREMENTS (MECHANICAL)	17.0.a	15	17.0 CIVIL DESIGN EVALUATION CRITERIA: a) For all the civil works for which civil design is in Bidder's scope evaluation shall be done for the total concrete & reinforcement quantity quoted by the Bidder. The bids will be evaluated based on the Pre treatment plant prices quoted by the bidder and quantities of reinforcement steel and concrete used in the Pre treatment plant (except Chemical house) quoted by the bidder.	Please provide geotechnical report, topography survey map and levelling drawing for proposed plant.	Bidder may give best competitive offer.	Contour map is attached and for geotechnical report refer point No. 3.

5	SPECIFICATION NO. PE-DC-K27-600-C001	SECTION – IID GENERAL TECHNICAL REQUIREMENT (CIVIL)	1.2.3	456	1.2.3 Soil Condition and Ground Water Level & HFL Type of foundation, depth, safe bearing capacity etc., shall be as per the approved Geotechnical report. HFL of the plot is at RL (+) 65.465 m (based on area boundary survey drawing manuguru TPP- Boundary-4000-1).	Please provide Finished ground level and natural ground level (Contour map) for proposed plat site	We need to know that, proposed plant site is in filling area or in cutting area	contour map is attached.
6	SPECIFICATION NO. PE-DC-K27-600-C001	SECTION – IID GENERAL TECHNICAL REQUIREMENT (CIVIL)	4.1.2.1	474	4.1.2 FOUNDATION AND UNDERGROUND STRUCTURES No major foundations will rest on filled up ground.	Please provide Finished ground level and natural ground level (Contour map) for proposed plat site	understanding of structure founding depth.	Refer point no. 5

