



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-22-Jul-20

CORRIGENDUM- 01

PROJECT	:	1X660 MW BHUSAWAL TPP UNIT-6
PACKAGE	:	EFFLUENT TREATMENT PLANT
ENQUIRY NO	:	E-6445/2020 Dated. 02.07.2020
SUBJECT	:	PRE- BID CLARIFICATION

Type of Corrigendum			
Technical Corrigendum -	☒	Commercial Corrigendum -	☒

In reference to the above mentioned tender enquiry for **EFFLUENT TREATMENT PLANT** package

Please note the following.

1. Pre bid clarification attached with this corrigendum shall be considered as part of NIT.
2. Clause no 42 of NIT should be consider as: - Part-I bids shall be opened at 11:00AM on due date through e-procurement Portal.

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

Yours faithfully,

For and on behalf of BHEL

R P Yadav
Dy. Manager

Pre Bid Clarification for Effluent Treatment Plant (ETP) for 1X660 MW BHUSAWAL TPS.

Sr. No.	Tender Document	Reference Clause & Clause No.	Clarification required	BHEL'S Clarification
1.	PART 01 TS SPEC ETP BHUSAWAL	DATASHEET 'A' (Page No. 107/126) Clause No. 1.03.01 Fuel Oil Storage Area Oily Waste Sump Effective Capacity: 150 m³ P&I Diagram (Page No. 104/126) Fuel Oil Storage Area Oily Waste Sump Capacity: 10 m³	The capacity provided for Fuel Oil Storage Area Oily Waste Sump in the Datasheet 'A' is 150 m ³ while that in P&ID is 10 m ³ . Kindly clarify which capacity is to be considered.	Please note that the capacity of Fuel oil storage area oily waste sump shall be read as 10m3 as indicated in P&ID.
2.	PART 01 TS SPEC ETP BHUSAWAL	DATASHEET 'A' (Page No. 107/126) Clause No. 1.03.02 Fuel Oil Storage Area Oily Waste Transfer Pumps Effective Capacity: 150 m³/hr. P&I Diagram (Page No. 104/126) Fuel Oil Storage Area Oily Waste Transfer Pumps Capacity: 10 m³/hr.	The capacity of Fuel Oil Storage Area Oily Waste Transfer Pumps given in Datasheet 'A' is 150 m ³ /hr. while that in P&ID is 10 m ³ /hr. Kindly clarify which capacity to be considered.	Please note that the capacity of Fuel oil storage area oily waste transfer pumps shall be read as 10m3/hr. as indicated in P&ID.

Pre Bid Clarification for Effluent Treatment Plant (ETP) for 1X660 MW BHUSAWAL TPS.

VOLUME	SECTION	CLAUSE NO.	PAGE NO.	SPECIFICATION REQUIREMENT	CLARIFICATION	BHEL'S Clarification
Vol- II	Annexure VI		102	TSS is indicated as 5000 ppm in DM & CPU Water	It seems to be typographical error. Generally the DM & CPU water does not have so high TSS value. We understand that it shall be TDS -5000 ppm instead of TSS. Kindly confirm.	Noted TDS OF DM AND CPU WATER shall be 5000 ppm
Vol- II	Section-IA	12	J	One (1) no. High Rate Solids Contact type Clariflocculator complete with mixer cum solids recirculation device along with drive and drive motor, cone shaped truncated flocculation skirt, rake mechanism along with drive and drive motor, collection troughs, telescopic type continuous sludge discharge arrangement intermittent timer operated main sludge disposal system and all accessories	As there is no sludge dewatering equipment's has been specified in the tender like Filter press/screw Press etc, we understand that the sludge Dewatering unit will be in BHEL Scope. Please Confirm	Please note that the Sludge shall be routed to Ash Slurry Sump from Clariflocculator Sludge Sump as indicated in P&ID. No filter press/ screw press is envisaged.
PART 04 TS SPEC ETP BHU	Section-III	211		Auxiliary power consumption guarantee	Since there are many intermittent running drives which will be operated as and when required like all sump pumps.	List of Drives and details as mentioned in Technical Specification shall prevail for Auxiliary power consumption guarantee, please follow.

					The auxiliary power consumption guarantee will be for continuous running drives only. Please confirm	
Volume-II	Section-IA	16- ADDITIONAL REQUIREMENT IN BIDDER SCOPE	18	Wherever pipe racks are not available, pipes shall run on pedestals or below ground. All fixing items such as U clamps, nuts, bolts etc. required to lay the pipes on pedestals shall be in bidder's scope of work. Coating, wrapping and protection required for buried pipes shall be in bidder's scope of work.	We understand that If the piping travels across the road i.e. it's travelling above ground all piping rack will be in BHEL scope. Further it is travelling underground i.e. running through the Culvert then Hume pipe will also be in BHEL Scope. Please Confirm.	Please note that the Pipe Rack shall be in BHEL scope as specified in technical specification. Further regarding coating, wrapping and protection of pipe bidder to consider 25 meter pipe from each sump to pipe rack in bidder scope. The piping scope shall be as per tender specification only.
Volume-II	Section-IA	16- ADDITIONAL REQUIREMENT IN BIDDER SCOPE	18	Wherever pipe racks are not available, pipes shall run on pedestals or below ground. All fixing items such as U clamps, nuts, bolts etc. required to lay the pipes on pedestals shall be in bidder's scope of work. Coating, wrapping and protection required for buried pipes shall be in bidder's scope of work.	Kindly provide the piping route drawing with indication of existing piping racks for our consideration which will help us in defining new piping rack requirement.	Pipe Length has been indicated in technical specification which is in part of bidder scope. The route of the pipe shall be detailed during detail engineering.
Volume	Data Sheet -A	5.02.00-Acid Dosing Tank	110	Protection-Internal – Acid Proof tile lining	As the internal protection in Acid/Alum Dosing Tank is of Tile lining. The tile lining wherever required, will be a part of Civil works which will	Confirmed. The tiling in acid/alkali dosing tank is part of BHEL scope.

					be in BHEL scope. Please Confirm	
Section-IA	SPECIFIC TECHNICAL REQUIREMENT-MECHANICAL	16- ADDITIONAL REQUIREMENT IN BIDDER SCOPE	20	Provision of laboratory inside chemical house.	Kindly provide the laboratory instrument Technical details along with quantity if laboratory items are in bidder scope.	The Clause stands deleted. No laboratory instrument is in bidder scope.
Electrical						
Volume-II	Section-IB (Specific Technical Requirements - Electrical)	Clause No.: 1.0 (Equipment & Services to be provided by Bidder)	Page No. 117 of 534	a) Services and equipment as per "Electrical Scope between BHEL and Vendor".	As per Electrical Scope between BHEL and Vendor, we understood that "Except Supply of LT Motors, Cable Glands, Cable Lugs & Conduit", nothing is in Bidder's Scope. Kindly Confirm.	Kindly refer the " Services and equipment as per "Electrical Scope between BHEL and Vendor" as part of the Technical Specification.
Volume-II	Section-IC (Specific Technical Requirements - C&I)		Page No. 124 of 534	10) Primary sensor redundancy for Control/measurement shall be decided as per following general criteria: - Critical controls and respective measurements- Triple redundant. - Non-critical but important control & measurements- Dual redundant. - Only measurement- No redundancy.	We understand that Redundancy Criteria of Instruments shall be decided by Bidder only, with respect to their Criticality of Process. Kindly Confirm.	Please note that Redundancy criteria shall be as per the technical specification. - Triple Redundant-Sensors used for protection interlocks shall be considered as critical controls. - Dual Redundant-The sensors used in interlocks shall be considered Non critical but important. The above requirement is minimum requirement. Additional sensor

						requirement (if any) as per the criteria mentioned in technical specification shall be discussed during detailed engineering.
Volume-II	Section-IC (Specific Technical Requirements - C&I)		Page No. 124 of 534	11) Scope of Instrumentation cables (Screened Control Cables), Fibre Optic cable & Control cables shall be as per Electrical Cable scope matrix in Electrical portion of specification. Any cable in Bidder's scope shall be as per specification.	As per Scope Matrix between BHEL and Vendor, we understand that "Except Supply of Instruments, Instrument Cables up to LCP, Local Control Panels, Junction Box & ACDB", nothing else is in Bidder's Scope. Kindly Confirm.	The clause at page number 124 is mentioned for cable scope only. The cable scope is clearly mentioned in detail in cable scope matrix. Kindly refer the same.
		General		C & I	We understand that there is no requirement of PLC System. Hence, all Instruments Signals & MCC Interface Hard Wiring shall be go directly to Client DCS System. Kindly Confirm.	Please note that the control of ETP system shall be DCS based which is in BHEL scope. However Local control panel shall be provided by bidder as per requirement mentioned in technical specification.
Volume-II	Section-IIB (General Technical Requirements - Electrical)	Clause No.: 4.1 (A.C. Motors)	Page No. 271 of 534	4.1.7) Motors located in hazardous area shall be flame proof type.	We understand that ETP System will come in Safe Area. Hence, Bidder can go with Non-Flame Proof type Motors.	Noted

					Kindly Confirm.	
Volume-II	Section-IIC (Specific Technical Requirements - C&I)	Clause No.: 3.0 (Technical Requirements)	Page No. 440 of 534	3.2) Hazardous Area Panel Requirement.	We understand that ETP System will come in Safe Area. Hence, it is not applicable. Kindly Confirm.	Noted
Volume II	Drawings	-	104	1.Power House Area Oily Waste Transfer Pumps-60 m3 2.Transformer Yard Area Oily Waste Transfer Pumps-60M m3. 3.Fuel Oil Storage Area Oily Waste Transfer Pumps-10 m3. 4.Common Oily Waste Water Transfer Pumps-50 m3. 5.Retention Pit for treated-(Oily water separator Trans Pump-50 m3. 6.CPI Sludge Sump Transfer Pump-15 m3. 7.Boiler Area Wash Water Transfer Pumps. 8.SSF Back Wash Waste Water Transfer Pumps. 9.Clariflocculator Sludge Sump Transfer Pump	We have observed that in the tender P & ID only volume/Capacity of sumps/pit are defined. Where every sumps/pits are having vertical screw type of pump, hence the sump depth/Height is must for design consideration. So please provide the Depth/height of every sumps/pits.	Sump depth may vary from 2.5 meter to 4.5 meter from FGL. Bidder to consider the same while selection of pumps. Actual invert level of sump shall be informed during detailed engineering.