

Pre Bid clarification for DM package for Bhadravadi project

Sr No	Volume	Section	Clause No	Page no	Page No	Specification Requirement	Reason For Clarification	BHEL REPLY/ADDITIONAL CLARIFICATION
	PROCESS							
1	Volume - II B	I	80. a	10 of 443	10 of 441	Piping	Bidder has request to clarify the Piping from DM Plant Supply Pumps (located near clarified water storage tank) (Approximate 220 m) is underground or Above ground.	Bidder to note that Piping from DM Plant Supply Pumps (located near clarified water storage tank) to DM plant area (Approximate 220 m) shall be laid above ground. Further please note that this piping is to be run on pedestals provided by BHEL in front of this area and further on pipe rack which is going all along with parallel to DM plant area. Further after pipe rack this piping with in DM plant area shall be finalised during detail engineering which shall be laid on pedestal (pedestal Provided by BHEL). However all auxiliary steel structure (U clamps, hangers, nuts, bolts, angle, channels, insert plates etc.) for fixing pipes on pedestal or racks for this piping shall be in bidder's scope. Pipe rack shall be in BHEL scope.
2	Volume - II B	I	80. c	10 of 443	10 of 441	Piping	Bidder has request to clarify the Piping from DM plant N.pit to CMB of ETP of size 150 NB (MINIMUM) is underground or Above ground.	Bidder to note that Piping from DM plant N.pit to CMB of ETP of size 150 NB (MINIMUM) shall be laid above ground.
3	Volume - II B	I	80. I	10 of 443	10 of 441	Piping	Bidder requested to confirm the distance between Pressure sand Filter outlet to filter water overhead storage tank inlet nozzle.	Bidder to refer the plot plan attached with tender specification for location of dm plant(Identified under sr no 2.4) and location of filtered water overhead tank is on the top of control room of DM plant and location of PSF/ACF is also with in this DM plant area and shall be finalised during detail engineering .Hence bidder to consider distances for the same accordingly based on plot plan attached with tender specification
4	Volume - II B	I	15	39 of 443	37 of 441	Make of Resin	Bidder requested to give approval on Indian Make Resin Ionexchange, Thermax, Auchtel	Bidder to follow the tender specification for the same. Further Bidder to note that any additional sub-vendor for any item shall be subject to BHEL and customer approval during detail engineering.
5	Volume - II B	I	49	46 of 443	44 of 441	Make of UF Membrane	Bidder requested to give approval on Team (Membrane Hitech) & KOCH	Bidder to follow the tender specification for the same. Further Bidder to note that any additional sub-vendor for any item shall be subject to BHEL and customer approval during detail engineering.

ELECTRICAL & INSTRUMENTATION								
1	Volume - II B	SECTION – IB	Sr no 6	194 of 441	196	Cabling material (cable trays, accessories, cable tray supporting system, conduits etc. Supply and E & C shall be in vendor scope	In page no 184 , the scope of supply is mentioned in BHEL scope. We understand that only cable tray (and Accessories) between JB to instruments or similar is in vendor's scope for sizes upto 100mm.	Bidder's understanding is correct.
2	Volume - II B	SECTION – IIC	1.00.00	page 395 of 441	397	Local Control Panel	All instruments and gauges supplied shall be on-line/ in-situ type the local control panel is not required. Please clarify the requirement. This requirement is not mentioned in <i>Electrical scope between BHEL & vendor.</i>	Bidder shall follow the specification with respect to PLC Panel and Backup Panel.
3	Volume - II B	SECTION – IIC	2.03.00	page 400 of 441	402	Back up panel	We do not require back up panel. Please clarify the requirement. As this requirement is not mentioned in <i>Electrical scope between BHEL & vendor.</i>	Bidder shall supply the backup panel as per specification requirement.
4	Volume - II B	SECTION – IC			223	PLC configuration Drawing - IO Module	We clarify that the we do not require RIO module. Customer to confirm the requirement.	Backup Panel shall be provided as per PLC Configuration Diagram.
5	Volume - II B	SECTION – IIC	4.00.00	page 405 of 441	407	LIR & LIE	All our instruments and gauges supplied shall be on-line/ in-situ type the LIR & LIE is not required. Please clarify the requirement. As this requirement is not mentioned in <i>Electrical scope between BHEL & vendor .</i> We have considered Junction in our scope as this is mentioned in scope of supply.	Bidder shall adhere to Contract Specification. LIE & LIR shall be provided as per the system requirement.
6	Volume - II B	SECTION – IIC	3.8.3	page 321 of 441	358	Communication with DCS	In PLC datasheet A & B, communication medium is mentioned of fiber optic over OPC whereas in clause 3.8.3 two types of communication is specified i.e. a)OPC Ethernet based TCP/IP protocol b) additionally, Modbus protocol on RS485 network. We request to confirm the requirement.	It shall be OPC ethernet based TCP/IP protocol.
7	Volume - II B	SECTION – IIC	3.8.3	page 322 of 441	324	Accessories for communication b/w PLC and DCS	In this clause it is mentioned that necessary accessories for establishing the communication between PLC and DCS shall be in vendor scope at both ends PLC and DCS. However the same is contradictory with PLC configuration diagram PTP on pdf page no 223.	PLC Configuration diagram shall be followed.
8	Volume - II B	SECTION – IIC	2.00.00	page 398 of 441	400	Control desk and panel	As we are providing PLC panel all the controls and monitoring , alarms, indication are available on HMI/PLC. Please clarify the requirement. This requirement is not mentioned in Electrical scope between BHEL & vendor.	As per PLC configuration diagram, PLC Panel is envisaged with Backup Panel. Bidder shall provide the same in line specification and system requirement.

9	Volume - II B	SECTION – IA	13.4.1	Page 63 of 441	65	Mandatory Spares	We understand the philosophy as below(typical example), Please clarify: 1. For function controller-10% of number for each type or minimum 4 Number for each type whichever is high- 2 Lot For this project there are redundant PLC controller (no other controller are required) . So Main Quantity is 2. Hence considering 4 Nos of controller(As this is higher than 10%) and 2 lots of such controller means total 8 Nos of controller for mandatory spares. Please confirm weather our understanding is correct or not.	Bidder's understanding is correct.
ADDITIONAL CLARIFICATION POINTS BY BHEL TO BE CONSIDERED BY ALL BIDDERS OF DM PLANT								
								Bidder to note that Valve indicated in the DM plant P&ID, at the inlet line of degasser tower shall be Motorized butterfly type control valve in place of pneumatic on/ off type diaphragm valve. The same shall be provided with manual butterfly isolation valves in upstream and downstream. In addition, one number on-off type pneumatic diaphragm /butterfly type by pass valve shall also be provided by bidder. The same shall be applicable for all three streams of DM plant and shall be in bidder's scope of supply.
								Bidder to provide 5 m capillary type PG and DPG with remote diaphragm seal for all PG & DPG provided for chemical application of DM plant.The same shall be in bidder's scope of supply.
								Bidder to provide 1 no. conductivity analyser at individual Mixed bed rinse outlet line for measurement of conductivity. Hence total 3 nos. of conductivity analysers shall be provided by bidder.The same shall be in bidder's scope of supply.
								Bidder to provide 1 no. cation conductivity analyser at individual Mixed bed outlet line for measurement of cation conductivity. Hence total 3 nos. of cation conductivity analysers shall be provided by bidder.The same shall be in bidder's scope of supply.
								Bidder to refer ANNEXURE -I for different analysers specfication as enclosed here with the pre -bid reply for their adherence.Bidder to follow the same.
								Bidder to refer ANNEXURE -II, sub-vendor list applicbale C&I items as enclosed here with the pre -bid reply for their adherence.Bidder to follow the same.