WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-2
NIT NO.: PNMM/PC161/E/001

S. No	Clause	Page	Title	Description	Clarification	Client/PDIL reply
1.	Part II : Technical Section - 2.0, Raw Water, Condensate and Treated Water Quality	2 of 6	1.1 Raw Water	14. Sulphates (as SO_4) : 150 mg/l 15. Sodium : 130 mg/l 9. Chloride : 10 mg/l & Other water parameters	Suphate value as mentioned in the Raw Water Quality Table seems to be on Higher side. Also the TDS mentioned is 258 ppm, which in not in consistent with the Ionic load - Na=130, SO4=150 ppm - this is already more than 258 ppm TDS and the other ions such as Ca. Mg, Cl, etc... are yet to be added). We kindly request you to revisit and reconfirm the values.	Amendment is being issued
2.	Part II : Technical Section - 3.0, Contractor Scope of Work	21 of 34	4.0 Scope of Work for Operation and Maintenance, Operation a.	a. it may also be mentioned that operation of WPTP and DM plants during the initial 12 months is expected to be intermittent. Contractor to plan manpower deployment considering intermittent operation of WPTP and DM plant during first year as per requirement of	It is mentioned that operation of WPTP and DM Plants during first 12 months is intermittent and is to be performed as per the requirement of Ammonia and urea plant contractor. Further the price quoted shall be fixed and no escalation is applicable. We kindly request you to confirm on the Manpower requirement during first 12 months to Plan Manpower	The month wise Process water & DM water requirement schedule is enclosed. Bidder to plan their manpower deployment accordingly. UTILITIES REQUIRED.pdf

				Ammonia and urea plant contractor. c. The price quoted by the bidders shall be fixed and no escalation is applicable.	Deployment and estimate in line.	
3.	Part II : Technical Section - 3.0, Contractor Scope of Work	22 of 34	4.0 Scope of Work for Operation and Maintenance,	**Mechanical Maintenance** Top up/ replacement of resin's /filters media, & repair of lining of vessels, acid/alkali & other chemicals shall also be in the scope of contractor.	We kindly request you to confirm the scope of supply for Chemicals during O&M Period	Bidders shall supply all chemicals and consumables up to PAC plus 3 months during O&M Periods. Afterwards all Chemicals during operation & maintenance period shall not be in the scope of bidder.
4.	Part II : Technical Section - 2.0, Raw Water, Condensate and Treated Water Quality & Part II : Technical Section - 4.0, Design Basis	5 of 6 & 9 of 28	2.1 Drinking Water Quality & 16 Drinking Water Storage Tank	15 Operating Pressure : 5.7 kg/ cm^2g & Drinking Water Pumps	Since the Drinking Water Pumps (both Plant and Township) are in bidder scope. Please confirm if the Operating pressure as indicated in Drinking Water Quality is applicable for Drinking Water Pumps (Plant & Township)	Following utilities shall be made available at pressure indicated below at Vendor's battery limit: 1) Cooling water make up pump : 6.2 kg/cm2g 2)Service water Pump 6.6 kg/cm2g 3) Polished/DM water transfer pump 6.2 kg/cm2g 4) Drinking water pump for plant distribution: 7 Kg/cm2g. 5) Drinking water pump for Township distribution: 7.0 Kg/cm2g.

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Sl. No.	DOC. NO., PAGE NO., CL. NO.	Description	QUERY	PDIL/CLIENT
TECHNICAL				
5	Doc. No. PC161-G-101-P-II/2.0, Sheet 2 of 6, Cl. No. 1.1	TDS of raw water	Total Dissolved Solids mentioned in raw water analysis are 258 ppm. However, after ionic balance, the same come to around 584 ppm. Further, after chemical dosing in Pretreatment Plant, Total Dissolved Solids increase upto 626 ppm. Kindly provide TDS to be considered for DM Plant design.	Amendment is being issued
6	Doc. No. PC161-G-101-PII/3.0 Rev.0, Sheet 32 of 34, Cl. No. 5.0 PNMM/PC161/E/001/ ATTCH-3.0(SCC) Rev.0, Page 15 of 48	Chemicals supply	Doc. No. PC161-G-101-PII/3.0 Rev.0, Sheet 32 of 34, Cl. No. 5.0 states that "Supply of all chemicals, spares and consumables required for the Operation and Maintenance of the plant during start-up, pre-commissioning, commissioning, trial runs and performance guarantee test runs shall be in the scope of supply of the LSTK contractor.", whereas Doc. PNMM/PC161/E/001/ATTCH-3.0(SCC) Rev.0, Page 15 of 48 states that "CONTRACTOR shall supply all chemicals for first filling and make-up required up to PRELIMINARY ACCEPTANCE OF PLANT". Please confirm the exact number of months for which supply of months to be considered.	Bidders shall supply all chemicals and consumables up to PAC plus 3 months During O&M Periods. Afterwards all Chemicals during operation & maintenance period shall not be in the scope of bidder. It is further clarified that chemical consumption after commissioning of 1 stream till PAC of plant shall be in bidders scope. The month wise process water & DM water requirement schedule from commissioning of one stream to PAC is enclosed herewith.
7	Doc. No. PC160/161/EM250-PDS-600 Rev.0	Service nomenclature	The nomenclatures given for various services (eg., BF, ES, FG etc.) are unclear. Please provide the detail description of these services for our understanding so that we are able to understand the piping specification for each service.	Applicable abbreviation for this ITB shall be follows: CW-Cooling water BF-Boiler feed water ES-Exhaust steam FG-Fuel gas NG-Natural gas PV-Vent gas

				SA-service air SW-Service water SC-Steam condensate SL-LP Steam AF-Antifoam solution CD-CO2/Steam mixture DW-DM water HZ-Hydrazine IA-Instrument air PC-Process condensate AW-Ammonia water
8	Termination points	Termination points	Please clarify termination points for WTP, DM and Condensate Polishing plants.	Tie in points shall be provided by owner at package battery limit. Bidder to provide their layout.
9	Doc. No. EM0000-PNMP-TS951 Rev. 0, Sheet 12 of 34, Cl. No. 5.2.4.5 & 5.2.4.6	Type of strainers	As per Clauses 5.2.4.5 & 6, T-type trainers shall be used on pump suction pipng for 2" and above and Y-type for suction piping 1.5" and below. Whereas in P&ID (Dwg. No. PC161-7112/7113-0023 Rev. 0), Y-type strainers are shown at suction of Service Water Pump and Cooling Tower make-up pump and Drinking Water pump (line sizes 150 NB, 400 NB and 150 NB respectively). Please confirm which clause / specification to follow. We propose Y-type strainers.	Same shall be as per Cl. No. 5.2.4.5 & 5.2.4.6 of sec. P-II/5.2.3 of ITB.
	Electrical & Instrumentation			
10	General	Layout	CPU plant location is not reflected in layout, please clarify the same.	Condensate Polishing Unit (CPU) is part of bidder scope & to be shown in their layout.

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Sl.	Reference of bidding document				Bidder's	PDIL/HURL Reply
No.	Sec. No	Page No.	Clause No.	Subject	Query	
11	Doc no: PC161-G-101-P-II/2.0	Sh. 02 of 06	1.1	1.0 Feed water quality 1.1 Raw water :Feed raw water quality available in the Battery Limit of Water Pre Treatment plant (WTP): Total hardness : 204 ppm Calcium(as CaCO3):48 ppm Magnesium(as CaCo3): 16 ppm	The total hardness and the individual Ca & MG hardness values are not matching. Please clarify.	Amendment is being issued
12	Doc no: PC161-G-101-P-II/2.0	Sh. 02 of 06	1.1	1.0 Feed water quality 1.1 Raw water :Feed raw water quality available in the Battery Limit of Water Pre Treatment plant (WTP): Total dissolved solids : 258 ppm	Based on the individual ions, the TDS after ionic balance arrives at around 570 ppm. However, the TDS value is mentioned as 258 ppm. Please clarify. In case of TDS higher than 300 ppm it is proposed to have UF-RO-DM plant in place of conventional DM plant due to less operating cost and less foot print.	Amendment is being issued DM plant shall be as per NIT
13	PC161-G-101-P-II/2.0	Sh. 05 of 06	2.1	Drinking water quality : Operating Pressure(kg/cm2(g)):5.7	The operating pressure shall be as per the system losses based on the pump discharge pressure.	Following utilities shall be made available at pressure indicated below at Vendor's battery limit:

						1) Cooling water make up pump : 6.2 kg/cm2g 2)Service water Pump 6.6 kg/cm2g 3) Polished/DM water transfer pump 6.2 kg/cm2g 4) Drinking water pump for plant distribution: 7 Kg/cm2g. 5) Drinking water pump for Township distribution: 7.0 Kg/cm2g.
14	GSTD-0202 (Sh20 of 39)	664	4.2.2	Triple Modular Redundant system (TMR)	We understand that I/O to be multiplied in erdundant configuration. Redundancy of instruments/ sensors/transmitters are not envisaged. Kindly confirm. If any measurements are required in redundancy , kindly enlist the same for our estimation.	2oo3 is applicable for Field instrumentation as mentioned in NIT

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Sr No	Subject	Clause no.	Thermax Query / Clarification	PDIL/HURL Reply
15	Raw water pump to PT Plant inlet piping	Dwg No. 5001-0000-0002	Please let us know whether the road crossing will be underground or above pipe rack. Raw water pipe will be terminated at the inlet of Stilling chamber at 5m distance from RWTP block mentioned in the Overall plot plan. Dwg No. 5001-0000-0002. We will required minimum 1.5 kg/cm2 pressure at inlet of stilling chamber.	Bidder to provide layout as per their scope in NIT. Tie in points shall be provided by owner at package battery limit.
16	Clarifier	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 57/1510	We have considered Tube Settler which is a type of lamella clarifier. But it is our own designed Tube based clarifier as working principal is similar to the lamella clarifier. We hope it is acceptable to you.	Refer relevant corrigendum to be issued separately
17	Overall plot plan	Overall plot plan Dwg No. 5001-0000-0002	Please confirm the scope of Hold cloud marked on Overall plot plan Dwg No. 5001-0000-0002. i.e. Chemical Storage, Parking Admin.	These facilities are not part of this package tender.
18	General		We have considered all electrical and instruments for safe area.	Area classification for electrical and instrument shall be as per NIT
19	Plot Plan	Overall plot plan Dwg No. 5001-0000-0002	Please confirm the location for control room and substation for DM plant, PT Plant and CPU Plant also.	Bidder to see layout provided in NIT.
20	Supply of Consumables & Chemicals	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 47/1510 5.0 Supply Of Consumables & Chemicals	We understood that Supply of Consumables & Chemicals are in our scope of supply but duration is not mentioned. We have considering one month chemical supply for initial fill till commissioning of plant. Please confirm.	Bidders shall supply all chemicals and consumables up to PAC plus 3 months During O&M .

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21	Critical Piping	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 75/1510 5.2 Critical Piping	There are two different specifications for Pipes one is Critical piping and also Page 183/1510 Piping material specification mentioned datasheet for pipes. Please confirm which is to be followed.	PMS/VMS of Sec. P-II/ 5.2.3(Design philosophy-Piping) are to be followed as per requirements described by process in Sec. P-II/ 4.0 or elsewhere in ITB.
22	Raw water quality	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 11/1510	1. Total hardness given not matching Ca hardness and Mg hardness. Please confirm. 2. M alkalinity given should be as CaCO3. Please confirm. 3. Total dissolved solids calculated by addition of all ions will be 571 ppm. Please confirm.	Amendment is being issued

23	Part-1 Commercial PNMM/PC161/E/001/ ATTCH-3.0(SCC)	35 of 48	Clause no : 14.0 Terms of payment (Entire package excluding O & M work)	Please clarify our understanding is correct or not .If Mechanical completion, Commissioning, PRELIMINARY ACCEPTANCE, Final Acceptance shall delayed more than 30 days from the scheduled date, and due to reason not attributing to contractor then owner will to pay the linked milestone payment against submission of BG of equal amount.	Refer in relevant Commercial Corrigendum/Pre bid query reply.
24	Part-II Technical PC161-G-101-PII/5.2.1	27 of 44	Clause No : 9.0 Spares For two years of operation	As per technical part , Mandatory spares shall be consider for two years of operation to be considered and recommended spares for two years shall be not part of Lump sump price (PC161-G-101-PII/3.0 sheet 33 of 34) Owner may award the 2 years spares order separately withincontractual completion period and the quoted prices should hold good accordingly. There is contrary with SCC document no PNMM/PC161/E/001/ ATTCH-3.0(SCC) page 18 of 48 clause no : 1.2.10.2 (ii) says operation spares for 3 years (both recommended & mandatory) We presume that part-II technical will be superseded the SCC. Please confirm our understanding.	Refer in relevant Commercial Corrigendum/Pre bid query reply.

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25	Part-I Commercial PNMM/PC161/E/ 001/ ATTCH-3.0(SCC)	28 of 48	Clause No :2.8 (iii) Construction power will be provided by Owner at chargeable basis	Please provide the cost for construction power in terms of Rs/ kWH	cost for construction power approx Rs 10 per kWH
26	General	-	O &M chemical	Please confirm the supply of chemicals during O & M.	Bidders shall supply all chemicals and consumables up to PAC plus 3 months during O &M Periods. Afterwards all Chemicals during operation & maintenance period shall not be in the scope of bidder.
27	PART-I COMMERCIAL PNMM/PC161/E/ OO1 LIB	2 of 5	Clause No : 2 (3) Due date for Bid submission	Were quested to client / PDIL to extend the Bid submission for four weeks from the due date (26.04.2018) for better and competitive bidding. Kindly confirm	Refer related corrigendum
28	Part-II Technical PC/161-G-101-PII/2.0	3 of 6	Clause No 1.2 & 1.3 Condensate influent quality	As per tender, Oil content is mentioned as 2.0 & 1.0, kindly confirm the presence of Emulsified oil content in the influent. If yes then treatment for removal of Oil treatment to be specified.	Oil content to be considered as free oil

Sr. No.	Volume	Clause No.	Page No.	Subject	Bidder's Query	PDIL/HURL Reply
29	Part –II Technical	1.1.1	Sheet 4 of 34	Water Pre Treatment	Kindly confirm the head for Drinking water pumps for Plant supply & Drinking water pumps for Township supply.	Following utilities shall be made available at pressure indicated below at Vendor's battery limit: 1) Cooling water make up pump : 6.2 kg/cm2g 2)Service water Pump 6.6 kg/cm2g 3) Polished/DM water transfer pump 6.2 kg/cm2g 4) Drinking water pump for plant distribution: 7 Kg/cm2g

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Sr. No.	Volume	Clause No.	Page No.	Subject	Bidder's Query	PDIL/HURL Reply
						5) Drinking water pump for Township distribution: 7.0 Kg/cm2g.
30	Part –II Technical	1.1.1	Sheet 3 of 34	Laminar Clarifier	Can we give HRSCC clarifier in place of Laminar clarifier? Kindly confirm.	Refer relevant corrigendum to be issued separately.
31	General			Cable tray for instrumentation	Cable tray for instrumentation	Instrumentation cable trays shall be of FRP as per NIT document no PC161-E001-P-II/5.4.
32	General			Common PLC	Common PLC	Common PLC has been considered for WTP package and bidder to ensure segregation of individual plant level signals at AI/AO/DI/DO card level so as to ensure the reliability of the system
33	General			Accuracy		Accuracy for the instruments shall be % of reading instead of % of FS as mentioned instruments design philosophy.
34	General			Civil	Kindly clarify height of dyke wall around the RO SHED of building.	Height of brick wall shall be 1.0m minimum and there is no RO shed at the site.
35	Part-II Section			Civil	we understand that breaking of piles will be in our scope. kindly clarify	Yes, breaking of piles shall be in bidder scope

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Sr. No.	Volume	Clause No.	Page No.	Subject	Bidder's Query	PDIL/HURL Reply
	5.5					
36	General			Civil	Installation of refractory including brickwork's of the Plant/Unit. this clause is not applicable for this contract.	Ok, Noted
37	General			Civil	for Sanitary Installation-can we use PVC pipe and fittings instead of CI sand cast/spun CI ? NOW A DAYS mostly it is done by PVC pipe/fittings. the pipe will be covered with M10 PCC.	Ok, Noted
38	General			Civil	We request you to allow to carryout sieve analysis and some other routine tests at site lab	Can be done but laboratory should be accredited
39	General			General	Majorly all vessels and pipe spools/pipe lengths are already hydro tested from the works. accordingly mechanical completion should be installation and running of individual unit after pre commissioning checks.	As per NIT
40	Part-II, Section 3	Clause No 1.1.6		Construction &Erection	As per NIT ,Supply to OWNER complete survey report within three (3) working day after completion of any survey. we want to understand survey requirement f.	If required
41	General				what is the spring level during all seasons	Refer Climatic condition and soil test report
42	General				Please note that there is no special tools & tackles are required for These plants.	special tools & tackles shall be as per ITB
43	Annexure-I			Spares	In tender documents, it is specified some spare parts under O&M Scope apart Mandotary spare	Bidder has to provide mandatory spare parts mentioned in the NIT,

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Sr. No.	Volume	Clause No.	Page No.	Subject	Bidder's Query	PDIL/HURL Reply
					part list. We request you to clarify which spare list has to consider for our scope.	However any additional spares if required during O&M Period same shall be supplied by bidder without any additional cost. Spare list mentioned as annexure-I Shall not be considered by bidder.
44	Part –II Section 4	2.2	4 of 28	Turndown	general	Minimum Turndown ratio for the Plant under Vendor's scope shall be 40 %
				Instrument vendor list	General	Additional vendor list for instrument may be considered as listed below.

Instrumentation Additional Vendor List

Sl. No.	IINSTRUMENTATION ITEM	PDIL	BIDDER'S REPLY
1	SILICA ANALYSERS	**FORBES MARSHALL**	
2	CHLORINE ANALYSER	**AWA**	
		B&C ELECTRONICS SRL	
3	MOISTURE ANALYSERS	**SERVOMAX**	
		MICHELL INSTRUMENTS LTD	
		TELEDYNE ANALYTICAL	

		INSTRUMENTS	
4	GAS DETECTION SYSTEM	**MSA**	
		DETCON INC	
		DETECTOR ELECTRONICS CORP (KIDDE)	
		NET SAFETY MONITORING INC	
5	FIRE ALARM SYSTEM	**TYCO FIRE SECURITY INDIA PVT LTD**	
		EDWARD INTERNATIONAL	
6	PC / SERVERS	**HP**	
7	FLOW ELEMENT: ORIFICE/ VENTURI/ FLOW NOZZLE	**STAR MECH CONTROLS INIDA PVT LTD**	
		EUREKA INDUSTRIAL EQUIPMENTS P LTD	
8	PITOT TUBE/ ANNUBAR	**MINCO INDIA**	
		STAR MECH CONTROLS INIDA PVT LTD	
		THERMO FISHER SCIENTIFIC	
9	ROTAMETERS	**KROHNE MARSHALL PVT. LTD.**	

		YOKOGAWA	
		TOKYO KEISO CO. LTD.	
		ROTA YOKOGAWA GMBH & CO. KG	
		ASA SPA	
		HEIRICH	
10	MASS FLOW METER (CORIOLIS TYPE)	**DANIEL MEASURMENTS**	
11	VORTEX METER	**BOPP & REUTHER MESSTECHNIK GMBH**	
12	MAGNETIC FLOW METER	**KROHNE MARSHALL PVT. LTD.**	
		E&H	
13	PRESSURE & D/P TRANSMITTERS	**HONEYWELL AUTOMATION INDIA LIMITED**	
		YOKOGAWA LIMITED	
14	ULTRASONIC FLOWMETERS	**DANIEL MEASURMENT**	
15	GWR	**MAGNETROL**	
16	TANK LEVEL INSTRUMENTS	**ROSEMOUNT TANK RADAR**	

17	SPECIAL LEVEL SWITCHES (VIBRATION FORK/RF ADMITTANCE)	**MAGNETROL**	
18	TEMPERATURE ELEMENTS (THERMOCOUPLE, RTD)	**PYRO ELECTRIC INSTRUMENTS GOA PVT. LTD.**	
		TEMPSENS INSTRUMENTS (I) PVT. LTD.	
		GENERAL INSTRUMENTS CONSORTIUM	
		GOA INSTRUMENTS INDUSTRIES LTD	
19	RADIATION PYROMETER	**LUMA.SENSE**	
20	ELECTRIC ACTUATOR	**LIMITORQUE**	
21	SMART POSITIONER	**FLOWSERVE**	
		FISHER	
22	SS TUBES	**RATNAMANI**	
		HEAVY METAL AND TUBES	
23	TUBE FITTINGS (FOR CONTROL VALVES, ANALYSERS, SAMPLING	**COMFIT**	
		HYDRO PNEUMATIC	

	SYSTEM)	**ASTEC**	
		FLUID CONTROLS	
24	INSTRUMENT VALVE MANIFOLD	**COMFIT**	
25	INSTRUMENT MINIATURE VALVES	**COMFIT**	
26	INSTRUMENTS COMPENSATION, POWER AND CONTROL CABLE	**CORDS CABLES**	

UTILITIES REQUIRED AS PER TABLE SCHEDULE

SR. NO.	UTILITY	UNIT	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27
1	DM Water	m3/hr	25	30	30	30	30	162	162	200	220	330	330	330	330	330
2	Process Water	m3/hr	25	25	25	25	25	560	560	710	570	570	800	800	800	800
3	Fire Water	m3/hr	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1	NOTE-1
4	Potable Water	m3/hr	30	30	30	30	30	30	30	30	30	30	30	30	30	30

NOTE:

1) Fire water shall be made available by vendor from end of 14th month.