



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
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	3 of 6	2.0 Treated Water Quality	4. SDI < 3#	Please note that SDI < 3# is practically not possible in clarification (sedimentation) followed by sand filtration process. This value is typically achieved in Membrane Filtration Process. We kindly request you to reconfirm the SDI Value at WPT outlet.	SDI not to be considered
2	Part II : Technical Section - 1.0, Project Description & Part II : Technical Section - 3.0, Contractor Scope of Work	3 of 6 & 3 of 34	1.0 Introduction & 1.0 General	The scope of work shall also include operation & maintenance of the plants for a period of 2 years from date of plant hand over of individual plants and extendable on yearly basis. & Two year operation period is based on 24 months operation & Maintenance from the date of preliminary acceptance of WPT and DM. While for CPU the same is consider for 13 month from the preliminary acceptance.	Due to the inconsistency in O&M periods of WPT, DM & CPU, we kindly request you to reconfirm the O&M durations for the 3 Process streams	NIT Conditions shall prevail.
3	Part II : Technical Section - 2.0, Raw Water, Condensate and Treated Water Quality	6 of 6	2.3 Polished Water Quality from CPU	6 Silica(total) as SiO ₂ , ppb : < 0.01	Silica value is indicated as < 0.01 ppb. It seems to be very low. We kindly request you to reconfirm the value.	silica value (total) as SiO ₂ shall be < 0.01 ppm



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NIT NO.: PNMM/PC161/E/001



4	Part II : Technical Section - 4.0, Design Basis	7 of 28	9 Sludge Sump	No. of Sludge Sump : One (1) Cap. 300 m ³ /hr each Com Type : Vertical cylindrical	We understand that there is typo error for Sludge Sump Capacity and the Type of Sump. We also understand that the Sludge Sump shall have Two (2) Compartments. Kindly reconfirm the type and capacity.	Your understanding regarding capacity found to be ok whereas for the type of sump NIT Conditions shall prevail.
5	Part II : Technical Section - 3.0, Contractor Scope of Work & Part II : Technical Section - 4.0, Design Basis	5 of 34 & 17 of 28	1.1.1 Process, DM Plant, CPU, Point s), xii, i) 14 Neutralization Pit	One (1) no. neutralizing Pit in two compartments complete with integral pipe, valves & accessories common for DM & CPU regeneration waste. & Capacity : Capacity of each compartment shall be sufficient to hold waste water generated in 24 Hrs. For WPTP+DM+CPU	We understand that waste only from DM and CPU Plants shall be transferred to Neutralisation and accordingly Neutralisation Pit shall be designed. Kindly Confirm our understanding.	Confirmed
6	Part II : Technical Section - 4.0, Design Basis	20 of 28	7 Exchanger Vessels b Mixed Bed	Design Flow per stream : 300 m ³ /hr Cycle Time : 68 Hours, Output per stream between two consecutive regenerations : 21600 m ³	With Design flow as 300 m ³ /hr per stream and 68 hours operating cycle, Output per stream between Two consecutive regeneration becomes 20,400 m ³ which is mentioned as 21600 m ³ . Kindly clarify.	Cycle time shall be 72 hours



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NIT NO.: PNMM/PC161/E/001



7	<p>Part II : Technical Section - 4.0, Design Basis</p> <p>&</p> <p>Part II : Technical Section - 5.1 , Design Specification- Process</p>	<p>5 of 28</p> <p>&</p> <p>6 of 8</p>	<p>3.1 Water Pre Treatment Plant, 1 Flash Mixer</p> <p>&</p> <p>5.0 Hydraulic Retention Time</p>	<p>Retention Time : 1 Mins</p> <p>&</p> <p>Flash mixer : 5 Mins</p>	<p>We request you to clarify the discrepancy on Hydraulic Retention Time for Flash Mixer for the referred clauses.</p>	<p>Hydraulic Retention Time for flash mixer shall be 1 min.</p>
8	<p>Part II : Technical Section - 3.0, Contractor Scope of Work</p> <p>&</p> <p>Part II : Technical Section - 9.0, Spare Parts</p>	<p>13 of 34, 32 of 34</p> <p>&</p> <p>3 of 32</p>	<p>1.1.4.2 Static Scope,</p> <p>6.0 Spares Two Years Recommended Spares</p> <p>&</p> <p>2.0 SPARE PARTS FOR TWO YEARS OPERATION (MANDATORY SPARES):</p>	<p>Supply of mandatory (spare parts for two year operation) and commissioning spares attached elsewhere in bid package,</p> <p>Two years normal operation spares required are to be identified by the bidder.</p> <p>&</p> <p>2.1 to 2.11</p>	<p>We understand that spare Parts as listed in Section-9 (clause 2.1 to 2.11) are referred as Mandatory Spares and the same shall be quoted by bidder within the Lump Sum Price.</p> <p>Bidder needs to submit the Seperate List of Recommended Spares (2 Years Spares) in addition to the Mandatory Spares " and same shall not be part of quoted Lump Sum Price". Please confirm our understanding.</p>	<p>Confirmed</p>
9	<p>Part II : Technical Section - 2.0</p>	<p>2 of 6</p>	<p>1.1 Raw Water</p>	<p>2. Temperature : Ambient</p>	<p>Client is requested to confirm the Design Temperature for WPTP, DM and CPU Packages</p>	<p>process design temp for WTP and DM Plant shall be 40 deg C and CPU plant design temp shall be 50 Deg C in process condensate unit and 70 Deg C for turbine condensate</p>
10	<p>Part II : Technical Section - 1.2</p>	<p>3 of 6</p>	<p>1.2 Turbine Condensate Quality</p>	<p>4. Iron as Fe : 0.2</p>	<p>We understand that the Iron mentioned as Fe is 0.2 mg/l. Client is requested to confirm</p>	<p>confirmed</p>



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PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



11	Part II : Technical Section - 2.0	4 of 6	2.0 Treated Water Quality	28. Colloidal Silica as SiO ₂ : BDL	Gurantee for Colloidal Silica has been mentioned at WTP outlet. Please be informed that WTP envisages Conventional Clarification and Filtration through DMF. Hence, it is not possible to have Colloidal Silica removal in WTP plant. Client is requested to check and confirm on Guaranteed Parameter.	Not required
12	Part II : Technical Section - 4.0, Design Basis	3 of 28	2.0 Process Description 2.1 Water Pre Treatment Plant	The raw water shall be directly fed to flash mixer where it will be mixed with Alum/FeCl ₃ ,	Description mentions for Dosing of Alum/ FeCl ₃ . However the P&ID Diagram indicates the dosing of Ferric Chloride (FeCl ₃). We understand that Fecl ₃ doing is envisaged for the project. Client is requested to confirm.	Alum/Fecl ₃ can be used as flocculant
13	Part II : Technical Section - 2.0 & Part II : Technical Section - 4.0, Design Basis	2 of 6 & 5 of 28	1.1 Raw Water & 3.1 Water Pre Treatment Plant 3 clarifier	3. Turbidity : 50 NTU & Inlet Turbidity : 100 NTU	Turbidity values mentioned in the referred clauses are contradictory. Client is requested to clarify the Design Turbidity Value.	Design turbidity shall be 100NTU



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PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



14	Part II : Technical Section - 2.0 & Part II : Technical Section - 4.0, Design Basis	4 of 6 & 5 of 28	2.0 Treated Water Quality & 3.1 Water Pre Treatment Plant 11 Dual Media Filters	2. Turbidity : <1 NTU & Guaranteed Effluent Turbidity : <2 NTU	Turbidity Guarantee values mentioned in the referred clauses are contradictory. Client is requested to clarify the Design Turbidity Guarantee Value.	<2 NTU
15	Part II : Technical Section - 4.0, Design Basis	21 of 28	3.4 Turbine Condensate Unit & PID No : PC161-7316-0027	2. Cartridge Filter Feed Pumps : Two (2) & P&ID indicates number of Cartridge Filter Feed pumps as Three (3) nos.	Client is requested to clarify on the Number of Cartridge Filter Feed Pumps required.	Cartridge Filter Feed Pumps shall be Three
16	Part II : Technical Section - 4.0, Design Basis	21 of 28	3.4 Turbine Condensate Unit & PID No : PC161-7316-0027	3. Activated Carbon Filters: Two (2) & P&ID indicates number of Activated Carbon Filter as Three (3) nos.	Client is requested to clarify on the Number of Activated Carbon Filters required.	Activated Carbon Filters shall be Three
17	Process Flow Diagram Water Pre Treatment Plant Dwg No : PC161-7112/7/7113-0046 & Part II : Technical Section - 4.0, Design Basis	7 of 28	Process Flow Diagram (Water Pre Treatment Plant) 11 Dual Media Filters	Flow Diagram indicates Number of Dual Media Filters as 6+2, & No. of Dual Media Filters as 8 (7W+1S)	Client is requested to clarify on the Configuration of Dual Media Filters required.	No. of Dual Media Filters shall be 8 (7W+1S)



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PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



18	Process Flow Diagram Condensate Polishing Unit		Process Flow Diagram (Condensate Polishing Unit)	Condensate Off-Spec to ETP	We understand that Condensate Off Spec shall be routed to ETP By bidder. Client is requested to clarify the distance from CPU Battery Limit to ETP.	Condensate Off Spec shall be routed to ETP By client
19	Piping and Instrumentation Diagram DM Water Plant Dwg No : PC161-7113- 0024			Chemical Dosing at SAC outlet Line	Acid, Alkali and Hypo Dosing is indicated at the SAC outlet line to Degasser. Client is requested to clarify the purpose of this Chemicals Dosing envisaged.	no chemical dosing is required after SAC and before degasser
20	Piping and Instrumentation Diagram DM Water Plant Dwg No : PC161-7113- 0024			SMBS and Antiscalant Dosing	Feed to UF is treated water from ACF followed by SAC, SBA and MB, hence free from Chlorine and TDS. Client is requested to confirm if SMBS dosing is required at UF outlet	Not required
21	Part II : Technical Section - 4.0, Design Basis	12 of 28	2 Ultra Filtration	No. of Skids : Two(2) Permeate Flowrate : 160 m3/hr	We understand that there is no Standby Skid for UF. Each Skid shall have permeate flowrate of 80 m3/hr. Please confirm	UF Skid shall be 2W+1S and each stream permeate flow shall be 120 m3/hr.
22	Part II : Technical Section - 4.0, Design Basis & Part II : Technical Section - 4.0, Design Basis	12 of 28	2 Ultra Filtration & 4. UF Feed Pumps	Feed Flowrate : 180m3/hr & Numbers : Three (2W+1S) Capacity : 120 m3/hr	Total UF Feed flow with Two(2) nos. pumps working will be 240 m3/hr. However, Feed flowrate to UF is mentioned as 180 m3/hr. Client is requested to clarify the discrepancy.	Total UF Feed flow with Two(2) nos. pumps working will be 240 m3/hr



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



23	Part II : Technical Section - 4.0, Design Basis	12 of 28	2 Ultra Filtration	a) Molecular Wt. Cut off value : 100000 MWCO	<p>Molecular Weight Cut off value has been defined as 100000 MWCO. However, we have apprehension about "Colloidal Silica removal with 100000 MWCO membrane". We kindly request you to check and confirm the MWCO value requirements.</p> <p>We also request you to clarify on the percentage Colloidal Silica reduction at the outlet of UF</p>	confirmed
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PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Sl. No.	DOC. NO., PAGE NO., CL. NO.	Description	QUERY	PDIL/CLIENT
TECHNICAL				
1	Doc. No. PC161-G-101-P-II/1.0 Rev. 0, Sheet 3 of 6, Cl. No. 1.3	Process condensate quality	In Process condensate quality, two values - one for Ammonia B/L and the other for Urea B/L are given. We assume that plant should be designed on higher value. Please confirm.	confirmed
2	Doc. No. PC161-G-101-P-II/1.0 Rev. 0, Sheet 6 of 6, Cl. No. 3.1.7	List of laboratory instruments and equipments	Please provide list of laboratory instruments and equipments to be considered.	apart from lab instruments provided in main laboratory ,bidder shall provide lab instruments for day to day operation of WPT/DM plants.
3	Doc. No. PC161-G-101-P-II/2.0, Sheet 6 of 6, Cl. No. 2.3.6	Total Silica at MB outlet	Mixed Bed exchanger can remove only Reactive Silica, hence only Reactive Silica can be guaranteed at the outlet of MB in Condensate Polishing plant, instead of Total Silica.	confirmed
4	Doc. No. PC161-G-101-P-II/3.0 Rev.0, Sheet 5 of 34, Cl. No. iv & v	ACF backwash pumps	As per our experience, ACF backwash pumps and blowers are not required. ACF will be backwashed using feed pumps.	confirmed
5	Doc. No. PC161-G-101-P-II/3.0 Rev.0, Sheet 5 of 34, Cl. No. 1.1.1.n) Page 6 of 34, Cl. No. x) & Cl. No. g)	Auto valves	We hereby propose all auto valves above 150 NB to be pneumatically operated butterfly valves.	confirmed except for drain valves on vessels.
6	Doc. No. PC161-G-101-P-II/4.0, Sheet 3 of 28, Cl. No. B	-	Please confirm whether 240 m3/hr net output is required at DM outlet or UF outlet.	240 m3/hr net output is required at UF outlet.
7	Doc. No. PC161-G-101-P-II/4.0, Sheet 6 of 28, Cl. No. 6	Chemical house	Please confirm no. of days to be considered for design of chemical storage area in chemical house.	30 days
8	Doc. No. PC161-G-101-P-II/4.0, Sheet 6 of 28, Cl. No. 7	MOC of Poly dosing tank	We propose Poly dosing tank to be of MSRL construction instead of SS 316.	as per NIT
9	Doc. No. PC161-G-101-P-II/4.0, Sheet 7 of 28, Cl. No. 8	Alum / Polyelectrolyte storage tanks	We propose that Alum / Polyelectrolyte storage tanks are not required as dosing tanks are also designed for total one day storage.	As per NIT



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PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



10	Doc. No. PC161-G-101-P-II/4.0, Sheet 7 of 28, Cl. No. 9	Sludge sump	Please confirm if sludge sump is single compartment or twin compartment construction.	Single compartment
11	Doc. No. PC161-G-101-P-II/4.0, Sheet 9 of 28, Cl. No. 16 & Doc. No. PC161-G-101-P-II/5.1 Rev.0, Sheet 6 of 8, Cl. No. 5.0	Capacity of Fire water storage tank	As per Doc. No. PC161-G-101-P-II/4.0, Sheet 9 of 28, Cl. No. 16, capacity of Fire Water Storage Tank is 2 x 4100 m3, whereas in Doc. No. PC161-G-101-P-II/5.1 Rev.0, Sheet 6 of 8, Cl. No. 5.0, it is 2500 m3. Please confirm the exact capacity of tank to be considered.	capacity of Fire Water Storage Tank shall be 2 x 4100 m3
12	Doc. No. PC161-G-101-P-II/4.0, Sheet 12 of 28, Cl. No. 2	UF skid capacity	Capacity of UF skid given is 160 m3/hr permeate, which seems to be on higher side as UF will be downstream of DM plant. We have considered feed water to UF as 120 m3/hr and permeate will be 108 m3/hr considering 90% recovery.	output capacity at UF plant shall be 120 M3/hr of each stream
13	Doc. No. PC161-G-101-P-II/4.0, Sheet 12 of 28, Cl. No. 2.a)	MWCO for UF	As this is post-DM UF, MWCO of membranes shall be 10,000 Daltons. Please confirm.	confirmed
14	Doc. No. PC161-G-101-P-II/4.0, Sheet 12 of 28, Cl. No. 2	UF vendors	We propose vendors like Membrane Hitec and Norit for post-DM UF application.	As per NIT
15	Doc. No. PC161-G-101-P-II/4.0, Sheet 13 of 28, Cl. No. 5	SMBS, Anti-scalant, Acid dosing	SMBS, Anti-scalant, Acid are dosed for RO system. As tender scheme does not specify RO process, we assume that these chemical dosing are not required. Please confirm.	confirmed
16	Doc. No. PC161-G-101-P-II/4.0, Sheet 17 of 28, Cl. No. 15	MOC of Acid Storage tanks	We propose MOC of Acid Storage tanks to be MSRL instead of HDPE.	as per NIT
17	Doc. No. PC161-G-101-P-II/4.0, Sheet 19 of 28, Cl. No. 7.a	Capacity of SAC exchanger	Please confirm capacity of SAC exchanger. As process condensate ACF is designed on 130 m3/hr, we feel SAC should also be designed on 130 m3/hr.	confirmed
18	Doc. No. PC161-G-101-P-II/4.0, Sheet 19 of 28, Cl. No. 7.b	Turbine condensate plant MB capacity	Turbine condensate capacity is 320 m3/hr. Please confirm the design capacity of MB shall be 300 m3/hr or 320 m3/hr.	Mixed bed is common for both the process condensate and turbine condensate. Capacity of each mixed bed shall be for 300 m3/hr
19	Doc. No. PC161-G-101-P-II/4.0, Sheet 18 of 28, Cl. No. 3.a Sheet 22 of 28, Cl. No. 3.a	Grade of Activated carbon	Activated carbon asked for is of dechlorination grade for Process and turbine condensate. We feel that it should be deoiling grade, please confirm.	deoiling grade



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PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



20	Doc. No. PC161-G-101-P-II/4.0, Sheet 21 of 28, Cl. No. 2, 3	-	Please confirm capacity of Cartridge filter feed pumps, cartridge filter and ACF in turbine condensate unit.	contractor to finalise the capacity of equipment keeping the design margin over the net oupt
21	Doc. No. PC161-G-101-P-II/4.0, Sheet 21 of 28, Cl. No. 2, 3	-	No. of Cartridge filter feed pumps and Activated Carbon filters in the mentioned clauses are two (1+1) each. Whereas in P&ID (Dwg. No. PC161-7318-0027 Rev.0), three nos. ACFs and three no. MB units are shown. Please confirm the quantities and capacities of units to be considered.	cartridge filter feed pump and activated carbon filters shall be three (2W+1S). Three MB units are common for both process condensate and turbine condensate.
22	Doc. No. PC161-G-101-P-II/4.0, Sheet 24 of 28, Cl. No. 4.1.5	SiO2 Analyzer	We understand that SiO2 Analyzer at outlet of MB is Multichannel as shown in P&ID. Please confirm.	confirmed
23	Doc. No. PC161-G-101-P-II/4.0, Sheet 25 of 28, Cl. No. 5.1	MOC of tanks	We hereby propose MOC of following tanks as MSRL or FRP, instead of CS FRP lined: 1) Anion Hot water tank 2) Acid dilution tank (Cation) 3) Acid dilution tank (Mixed bed) 4) Acid tank for neutralization pit	MSRL/CS FRP lined
24	Doc. No. PC161-G-101-P-II/4.0, Sheet 25 of 28, Cl. No. 5.2	MOC of piping	We hereby propose MOC of following piping as MSRL, instead of CS FRP lined: 1) Acidic water 2) Alkali (sodium hydroxide) dilute 3) Alkali (Sodium hydroxide) strong 4) Waste effluent from DM plant vessel & chemical solution tank	MSRL/CS FRP lined
25	Dwg. No. PC161-7318-0028 Rev. 0 Sheet 1 of 1	Piping MOC	As per P&ID, piping MOC upto SAC is SS 304 and further from SAC is MSRL. We feel that piping till SAC shall CS and downstream of SAC shall be CSRL.	confirmed
26	Dwg. No. PC161-7318-0028 Rev. 0	Analyzers at SAC outlet	In P&IDs, Conductivity analyzers are shown at outlet of SAC. Whereas in Doc. No. PC161-G-101-P-II/4.0 Rev.0, Sheet 24 of 28, Sodium Analyzers are required at the outlet of SAC exchangers. Please confirm if we have to provide both the Analyzers or only as per mentioned clause.	Sodium analyser to be provided at the outlet of each SAC



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



27	Doc. No. PC161-G-101-P-II/5.1 Rev. 0, Sheet 6 of 8, Cl. No. 5.0 Doc. No. PC161-G-101-P-II/4.0 Rev. 0, Sheet 5 of 28, Cl. No. 1	Retention time for Flash Mixer	As per Doc. No. PC161-G-101-P-II/5.1 Rev. 0, Sheet 6 of 8, Cl. No. 5.0, retention time for Flash Mixer is 5 inutes, whereas in Doc. No. PC161-G-101-P-II/4.0 Rev. 0, Sheet 5 of 28, Cl. No. 1, it is 1 minute. Please confirm which clause to follow.	Retention time for Flash Mixer shall be 1 min
28	Doc. No. PC161-G-101-P-II/5.1 Rev. 0, Sheet 6 of 8, Cl. No. 5.0	Retention time for Lamella Clarifier	Retention time for Lamella Clarifier is not applicable as it is designed on rise rate.	confirmed
29	Doc. No. PC161-G-101-P-II/5.2.1 Rev P, Sheet 5 of 44, Cl. No. 1.15	Nitrogen filling	As per the clause, all process equipments should be supplied with Nitrogen filling. Please specify which process equipments shall be provided with Nitrogen filling.	not required
30	Doc. No. PC161-G-101-P-II/5.2.1, Rev P, Sheet 11 of 44, Cl. No. 2.2.3	CS / KCS plates	As per the clause, carbon steel plates shall be procured in fully killed condition. Please confirm if all CS/ CSRL vessels and tanks in WPT, DM, and CPU plants shall be KCS material or CS material.	As per ITB, (KCS shall be used)
31	Doc. No. PC161-G-101-P-II/5.2.1, Rev P, Sheet 12 of 44, Cl. No. 2.2.14 & 2.2.16	PWHT requirement	We understand that PWHT is required only for caustic services (as amine, hydrogen, lethal & sour services are not applicable here). Please confirm.	Noted
32	Doc. No. PC161-G-101-P-II/5.2.1, Rev P, Sheet 20 of 44, Cl. No. 3.4.1	Rubber lining thickness	Minimum thickness of rubber lining shall be 4.5 mm instead of 5 mm, please confirm.	confirmed
33	Doc. No. PC161-G-101-P-II-SEC-12 Rev.0, Sheet 5 of 20 Doc. No. PC161-G-101-P-II/1.0 Rev. 0, Sheet 5 of 6	construction power scope	As per Doc. No. PC161-G-101-P-II-SEC-12 Rev.0, Sheet 5 of 20, construction power shall be provided by Owner free of cost, whereas in Doc. No. PC161-G-101-P-II/1.0 Rev. 0, Sheet 5 of 6, it is mentioned that bidder shall arrange construction power at his own cost. Both the clauses are contradictory, please clarify the scope clearly.	Construction at one single point on chargable basis will be provided.
34	Doc. No. PC161-G-101-P-II/4.0 Rev. 0, Sheet 4 of 28, Cl. No. 2.1	-	For filtered water to over flow from fire water storage tank to filtered water storage tank, the tank will need to be elevated to high level. We propose that instead of filtered water to over flow from one tank to another, one tapping each shall be provided from DMF outlet header directly to fire water storage tank and filtered water storage tank both.	As per NIT



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



35		Spare parts list	In tender documents , it is specified some spare parts under O&M Scope apart from Mandotary spare part list. We request you to clarify which spare list has to considered for our scope.	appart from mandatory spares any other spares required shall be in vendor scope.
36	PC161-G101-P-II/1.0 Rev. 0, SHEET 8 OF 35	Materlal for Civil work	We request you to provide approved list of quarries for aggregates & Sand.	Shall be As per IS-383
37		Site Fabrication	Site fabrication executed by bidder or by their own approved sub- contractors of requisite experience shall be acceptable to HURL/PDIL.	Noted, Creditional of sub contractor shall be submitted
38		Shop fabrication	Shop fabrication executed at bidder workshop or at their own approved febricators of requisite experience shall be acceptable to HURL/PDIL.	Noted, Creditional of sub contractor shall be submitted
39	Doc. No. PC161-G-101-P-II/2.0 Rev. 0, Sheet 4 of 6, Cl. No. 2.0	Treated water quality at WTP outlet	SDI < 3 cannot be guranteed at outlet of WTP plant.	SDI not to be consider
40	Doc. No. PC161-G-101-P-II/2.0 Rev. 0, Sheet 5 of 6, Cl. No. 2.1	Treated water quality at drinking water plant outlet	Treated water quality of Drinking water outlet shall be based upon inlet water quality in tender documents. In case of upward variation in Raw Water quality, Guarantee will not be applicable.	acceptable
41	General	Chemical dosages	We request you to specify minimum regeneration levels,minimum dosage of various chemicals, minimum dosage of ClO2 required for sizing of equipments.	SAC & SBA 40 kg/m3, MB 60 kg/m3
42	General	ClO2 system	We understand that ClO2 system shall be used only for drinking water purpose. Chlorination required for Raw water shall not be in scope of Bidder.	ClO2 dosing shall be for pre & post chlorination. Capacity of ClO2 genrator for pre chlorination shall be min 5 kg.
43	Electrical & Instrumentation			
44	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 8 of 80, Cl. No. 3.0	Area classification	Kindly confirm plant area shall be safe.	Surrounding area around DM plant is safe; however bidder to check that hazardous area will come in DM plant as per process requirement.
45	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 9 of 80, Cl. No. 5.0.a)	UPS scope supply	We considered only ACDB & 2 nos.UPS Power feeder(for each plant) will be given for single point then furhter distrubution to be done by bidder.	Only two feeders to be given for UPS supply for whole plant & further distribution shall be in bidder's scope.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



46	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 10 of 80, Cl. No. 5.0.d)	Power supply	We assume that client will provided 2nos. 11KV normal feeder for each plant(DM,PT & CPU) & further distrubution is in bidder scope.	Only two feeders of 11KV normal supply at owner's 11KV SWBD shall be provided for whole plant (ie. WTP, DM & CPU) and further engineering & distribution shall be done by the bidder.
47	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 10 of 80, Cl. No. 5.0.j)	Transformer connection	Please update for Tranformer secondary connection to be done by cable or bus-duct.	Please refer Cl. No. 10 (K)
48	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 10 of 80, Cl. No. 5.0.i)	ASPB supply	Please clarify ASPB shall be fed from which panel.	ASPB supply shall be provided by PMCC/EPMCC as per load requirement.
49	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 11 of 80, Cl. No. 5.1.e)	Aviation lighting	Please confirm aviation ligthing is required or not.	Aviation light shall be provided if required as per ICAO regulation.
50	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 11 of 80, Cl. No. 5.20	Battery back-up time	Kindly confirm the battery back up time for DC & UPS system both.	ACUPS battery backup time is for 1hr. & for DC battery backup time is for 1 hr. .
51	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 13 of 80, Cl. No. 6.14	Lighting transaformer location	We assume that same is part of MLDB, please confirm.	Lighting Transformer & MLDB shall be separate.
52	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 14 of 80, Cl. No. 7.2	Energy system	Kindly confirm scope of energy management system.	Energy management is in owner's scope however numerical relay shall have communication on IEC-61850 protocol in redundat mode and meter shall have communication on MODBUS protocol.
53	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 15 of 80, Cl. No. 7.3	Numerical relay	Please confirm required numerical relay is communicated between which systems.	Refer point no 9 reply above.
54	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 19 of 80, Cl. No. 9.1.4	PA system scope	Kindly confirm PA, communication system, secu. System, access control system & CCTV system scope of supply.	PA system is not in bidder's scope however for CCTV security system, access control system & communication system shall be as per instrumentation specification.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



55	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 20 of 80, Cl. No. 9.1.4	Transformer capacity	This point states that TX capacity not more than 2MVA, however cl.9.2.6 mentions that TX upto 10MVA. Kindly confirm.	Please note that Cl. No. 9.2.4 is for 11/0.433 KV or 3.3KV/0.433 KV transformer only whereas Cl. No.9.2.6 is a general clause applicable for 11/3.3 KV transformer etc.
56	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 21 of 80, Cl. No. 9.3.1.d	Panel IP class	As per cl.9.3.1, panel IP shall be IP-42 for 1600 Amp rating & IP-54 for above 1600 amp rating, however cl. 9.3.3(ii) states that panel IP shall be IP-52. Kindly confirm precise IP rating for panels.	Cl. No. 9.3.1 (d) shall prevail.
57	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 21 of 80, Cl. No. 9.3.5.b	Emer.LSDB power .	Please confirm Emergency LSDB shall be fed from which source, upto panel power supply given by client or bidder(cable & cable trays).	LSDB (N) shall be fed from MLDB (bidder's scope) & LSDB (E) shall be fed from EMLDB (bidder's scope).
58	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 24 of 80, Cl. No. 9.3.3.x)	Other Feeder Power supply	Please clarify which feeders shall be fed from SFU.	Power feeders of rating 250 Amp. & below shall be fed from SFU (refer PDS 404) and power feeders rating above 250 AMP to 630 AMP shall be provided with MCCB, ACB power feeder shall be provided above 630 AMP.
59	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 30 of 80, Cl. No. 9.7.l)	Starting current Limitation	Please note that starting shall be limited to as per IS 12615:2011-IE2 motors guide line.	Shall be as per ITB.
60	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 31 of 80, Cl. No. 9.8.e)	VFD HD type	As per system requirement, we have only pump application with motor & can be operated with ND type drive (if applicable for VFD), then HD VFD required.	Requirement of VFD if needed shall be as per ITB.
61	PC161-G001-P-II/Sec.-5.3 rev. 0, Sheet 32 of 80, Cl. No. 9.9.a)	LCS MOC	Please confirm if Panel Outer shall be considered with Safe area classification.	Hazardous area classification ,if needed, shall be as per process requirement.
62	General	UPS specification	Kindly provide UPS detail specification if part of supply.	Refer reply against point no 2 above.
63	General	Layout	CPU plant location is not reflected in layout, please clarify the same.	
64	General	HV Panels	We request you to supply LT Power at in comer of our PMCC . HV panels shall be excluded from our scope.	Please provide as per NIT



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001





WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Sl.	Reference of bidding document				Bidder's	PDIL/HURL Reply
No.	Sec. No	Page No.	Clause No.	Subject	Query	
1.	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): Temperature deg C : Ambient	Please provide the design water temperature along with Minimum & Maximum values.	process design temp for WTP and DM Plant shall be 40 deg C and CPU plant design temp shall be 50 Deg C in process condensate unit and 70 Deg C for turbine condensate
2.	PC161-G-101-P-II/2.0	Sh. 03 of 06	1.2	Turbine Condensate Quality:	Please provide the Outlet TDS of the Turbine condensate.	as per NIT
3.	PC161-G-101-P-II/2.0	Sh. 03 of 06	1.2	Process Condensate Quality:	Please provide the Outlet TDS of the Process condensate.	as per NIT
4.	PC161-G-101-P-II/2.0	Sh. 04 of 06	2	Treated water quality: SDI < 3	Treated water quality: SDI ₁₅ < 5. Please confirm.	SDI not to be considered



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



5	PC161-G-101-P-II/2.0	Sh. 05 of 06	2.2	Polished Water Quality From DM Plant: Sr.No Parameters Value 1 pH 6.5-7.0 2 Conductivity at 20 deg. C, Micromho/cm <0.2 3 Total suspended solids Nil 4 Turbidity NTU Nil 5 Silicic acid mg/kg <0.02 6 . Total Iron as Fe mg/kg <0.02 7 Total Copper mg/kg <0.003 8 Sodium mg/kg <0.01 9 Sulphates mg/kg <0.02 10 Chlorides mg/kg Nil 11 Oil & grease mg/kg Nil 12 KMnO4 value at 100deg C mg/kg <3 13 Oxygen Saturated 14 Silica as SiO2 mg/l < 0.01	Polished water quality from DM plant: 1. Conductivity @ 25 degC : <0.2 microsiemens/cm 2. Reactive silica : < 0.02 ppm Please confirm.	as per NIT
6	PC161-G001-P-II/Sec.-5.3	267	1.3	Air pressurization & ventilation system	Do we need to provide pressurized ventilation in Cable cellar also (ground floor) .	pressurized ventilation in Cable cellar is not required
7	PC161-G001-P-II/Sec.-5.3	282	9.16	The equipments, if located in hazardous areas, shall be suitable for hazard involved and shall have the following additional explosion protection	We request you to furnish the zone classification of this package.(Hazardous or Safe)	shall be consider safe zone



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



8	PC161-G001-P-II/Sec.- 5.3	296	9.11	The cable trays and risers shall be of aluminium alloy / GI prefabricated ladder type.	As these clause are contradicting, We recommend GI type trays. Kindly accept.	As per electrical cable trays and risers shall be as per CL. No 9.11 (page no 296) of electrical design philosophy.
		609	11.2.1	FRP perforated cable trays/cable ducts shall generally be used for main cable trays		



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Sr No	Tender Clause	Tender Clause Description	Change/ Modification Required	PDIL/HURL
1	Tender Document, Part-II: Technical, Clause No. 8.1, Sub Clause: 8.1.1: Work Experience Criteria	<u>Water Treatment Plant:</u> Bidder should have designed, Engineered, Supplied, Erected, Commissioned at least one water treatment Plant comprising of clarifiers & Sand Filters of total output capacity of 980 m ³ / hr during last 7 years which should have completed successful operation for at least one year after commissioning, preceding last day of the month previous to the one in which NIT is invited.	<u>Water Treatment Plant:</u> Bidder should have designed, Engineered, Supplied, Erected, Commissioned at least one <u>water or waste water</u> treatment Plant comprising of clarifiers & Sand Filters of total output capacity of 980 m ³ / hr which should have completed successful operation for at least one year after commissioning, preceding last day of the month previous to the one in which NIT is invited	<u>No deviation to PQ is allowed.</u>
2	Tender Document, Part-II: Technical, Clause No. 8.1, Sub Clause: 8.1.1: Work Experience Criteria	<u>Resin Based DM Plant:</u> Bidder should have designed, Engineered, Supplied, Erected, Commissioned at least one Resin Based Demineralization Plant of capacity consisting of at least two streams, each stream having 90 m ³ / hr capacity producing output water quality having silica < 0.01 ppm and conductivity < 0.2mu/cm during last 7 years which should have completed successful operation for at least one year after commissioning, preceding last day of the month previous to the one in which NIT is issued.	<u>Resin Based DM Plant:</u> Bidder should have designed, Engineered, Supplied, Erected, Commissioned at least one Resin Based Demineralization Plant of capacity consisting of at least two streams, each stream having 90 m ³ / hr capacity producing output water quality having <u>silica < 0.02 ppm and conductivity < 0.2mu/cm</u> during last 7 years which should have completed successful operation for at least one year after commissioning, preceding last day of the month previous to the one in which NIT is issued.	<u>No deviation to PQ is allowed.</u>



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Sr No	Subject	Clause no.	Thermax Query / Clarification	PDIL/HURL Reply
1.	Stilling chamber / Inlet chamber	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 57/1510	We would like to recommend stilling chamber or inlet chamber for pre-chlorination of raw water before the flash mixer. Please confirm.	Confirmed
2.	Area available for PT	Dwg No. 5001-0000-0002	Please furnish the editable copy of the layout for us to estimate the piping lengths. We have assumed that DM plant Block includes DM plant and Process & turbine CPU plant in the same area.	Noted
3.	Dual Media Filters	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 57/1510 and 1495/1510	Dual media filters mentioned 8 nos.(7working+1Standby) on page no. 1495/1510 in process flow diagram DMF mentioned are 8 Nos. (6Working+2Standby). Please confirm the Number of working DMF as we have considered 8 nos. (7working+1Standby).	Dual media filters shall be 8 nos.(7working+1Standby)
4.	Water Pretreatment plant and DM/polished water plant	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 Page No. 1495/1510	Discharge pipe of Drinking water pump(Plant) , Drinking water pump(township), Cooling water makeup pump,, service water pump, MB regeneration pumps, MB/SBA regeneration Pump(Process CPU), MB/SAC regeneration Pump(Turbine CPU), SM/Polished water transfer Pump, Effluent transfer Pump will be terminated at 5m distance from respective pump. Pleas confirm.	As per NIT
5.	Sludge Disposal	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 53/1510	Sludge from Clarifier will be terminated at 5m distance from discharge line of Sludge pumps. Please confirm that further sludge pipe routing from RWTP to ETP/STP will be in client's scope.	As per NIT
6.	Post DM UF system	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 Page number 61 of 1510	We have considered 3 Nos (2working+1Standby) UF feed pumps of 120m ³ /hr each. Whereas Technical datasheet (Page number 61 of 1510) number of UF Skid Nos. Two (2), Feed flow rate 180 m ³ /hr, Permeate flow rate 160 m ³ /hr. So we assumed UF skids of 90m ³ /hr feed flow rate per skid. Please confirm.	UF Skid shall be 2W+1S and each stream permeate flow shall be 120 m ³ /hr.
7.	DMF cum MB air blower	Tender Part-II Technical doc no. PC161-G-101-P-	We have considered separate air blowers for DMF and MB units as working capacities for both are having much difference.	acceptable



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



		II/1.0 page No. 1499/1510		
8.	Critical piping	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 75/1510 5.2 Critical Piping 3.0	We request you to kindly accept GRP/FRP pipe MOC instead of CS-FRP lined	As per NIT
9.	Electrical scope	Doc no. PC161-G001-P/II/5.3 page 9 of 80	We understand that client will made available 2 nos. of 11kV and 2 nos. of 415V emergency supply and 2nos. of 115V AC UPS Supply feeder. Bidder has to take tapings from respective panels and make their own arrangements for further distribution. Please confirm.	Two nos.11KV normal power supply feeder, two nos. 415V emergency power supply feeders from owner's switchboard in Utility Substation and 2 nos. of 115 V AC UPS feeder from UPS DB in Central Control Room (at Ammonia & Urea Plant) shall be made available to bidder's use.
10.	Plot Plan	Overall plot plan Dwg No. 5001-0000-0002	We understand that two nos. of transformers (commonly for DM, PT and CPU package) will be supplied by bidder. Where will be the location of transformer yard? Please confirm.	Nos. and sizes of Transformer shall be decided by bidder during detailed engineering stage as per NIT. Transformer yard/Bay shall be located along with Bidders DM plant substation.
11.	General		We have not found any SLD in given specification.	SLD shall be generated by bidder in line with NIT.
12.	General	Fire Fighting System	Fire fighting system & Fire protection system for entire plant is in client's scope of supply. Please confirm.	Confirmed
13.	Vendor list	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 1394/1510 2. Static Equipment	We request you to consider some additional vendors for Pressure vessels for water treatment plants.	As per NIT
14.	Valve specification	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 172/1510 6.7 Valves	Valve specifications given in tender is not enough to get clarity while valve selection. Kindly provide some more details or valve chart which will further defines according to class, ratings and MOC of valves.	MOC of valve shall be as per piping design philosophy
15.	Treated water quality	Tender Part-II Technical doc no.	1. pH 6.5-8.5 will be possible after pH correction. Please	ACCEPTED



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



		PC161-G-101-P-II/1.0 page No. 13/1510	confirm. 2. We understood that Cadmium, chromium, copper, Lead parameters expected in Treated water quality will be nil as there are no such parameters mentioned in Raw water quality. Please confirm. 3. We can not guarantee Colloidal silica, pesticides in treated water quality. That will be guaranteed after UF in DM plant. Please confirm.	
16.	DM water quality	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 14/1510	1. We understood that mg/kg is ppm. Please confirm. 2. We understood that silicic acid is SiO ₂ as such. Please confirm. 3. We understood that Silica as SiO ₂ mentioned in DM water quality will be reactive Silica. Please confirm.	Confirmed
17.	Turbinecondensate quality Ammonia, Urea and O&U	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 12/1510	Please confirm, Silica as SiO ₂ 0.02 ppm as inlet for Turbine condensate quality Ammonia plant is considered as Reactive Silica.	confirmed
18.	Polished condensate quality Ammonia and Urea	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 12/1510	Please confirm, MeOH max 20 ppm as inlet for Polished condensate quality Ammonia plant.	confirmed
19.	Polished condensate quality	Tender Part-II Technical doc no. PC161-G-101-P-II/1.0 page No. 15/1510	We can guarantee Reactive silica as SiO ₂ < 0.01 ppb in Polished condensate quality mentioned	SiO ₂ < 0.01 ppm
20.	General	PLC System	We assume that for PT, DM & CPU package a Common PLC system to be considered. Please confirm our understanding.	Common PLC.
21.	Annunciator	Tender Part-II PC161-G-101-P-II/3.0 Page no.9 Of 34 & PC161-E001-P-II/5.4 Page no. 8 of 75	Please confirm whether we need to consider separate Hardwired Annunciator with LED lamps..	As per NIT
22.	Interfacing cable – Point no (g)	Tender Part-II PC161-G-101-	All Interfacing cable from field Instrument to PLC via JB & PLC to MCC is in Bidder scope of supply. Also a common PLC shall be	As per NIT.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



		PII/5.3 Page no.10 Of 80	located in Central control room.	
23.	Trip Interlocks must be designed 2oo3 philosophy	Tender Part-II PC161-G-101- PII/5.4 Page no.9 of 75	Please confirm whether we need to consider separate Instrument (three) instrument for trip action.	As per NIT.
24.	Analyzer	Tender Part-II PC161-G-101- PII/5.4 Page no.14of 75	Please confirm for Safe area application all analyzers need to be consider Ex-proof including Silica & Sodium analyser.	As per NIT.
25.	PLC	Tender Part-II PC161-E001-P- II/5.4 Page no.47 of 75	As tender specification does not mention IO's redundancy. We assume that I/O's are non redundant type.	All Closed Loop will be redundant.
26.	Level measurement	Tender Part-II PC161-E001-P- II/5.4 Page no.61`of 75	02 nos. of Level measurement of two different principal needs to be consider for each storage tank or only for critical application storage tank.	For each storage.
27.	General	Civil	Finish Ground Level and Natural Ground Level is not mention.	Graded land shall be provided to bidder. FGL=78.600M
28.	Geotechnical report	Tender Part-II PC161-E001-P- II/5.4 Page no.1210`of 1510	Geotechnical report is available but bole log & Zone applicable to PT Plant, DM Plant and Process & Turbine Condensate Polishing Units is not clear	Refer bore log location marked in Geotech report and for location of DM plant refer plot plan.
29.	General	Civil	Civil Design basis is not available.	Already attached in ITB.
30.	Geotechnical report	Tender Part-II PC161-E001-P- II/5.4 Page no.1210`of 1510	As per Geotechnical data, GWT is 5.0mtr below NGL. Please provide GWT considered for design basis.	At surface of FGL.
31.	General	Civil	No painting to RCC below ground is considered since it is not clear in specification.	Not required
32.	Minimum Depth of foundation	Civil	Minimum depth of foundation recommended in Geotechnical data over 1.5mtr sand filling. Is still sand filling of depth 1.5mtr is required if foundation is kept at 3mtr below NGL	Not required
33.	Steel: CRS bar and Cement	Civil	Steel: CRS bar and Cement OPC 43 grade considered as per technical specification civil and structural work. Please confirm.	Confirmed.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



34.	Road specification	Civil	3mtre wide Road specification applicable for within plant limit is not mentioned in Technical specification. Please confirm.	Not in vendor scope. But Paving inside battery limit shall be in bidder scope.
35.	Scope of Garland drain and road	Civil	Scope of Garland drain and road is not clear, Please elaborate the scope.	Not in vendor scope. But Paving inside battery limit shall be in bidder scope.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
1.	Part-I commercial PNMM/PC161/E/001/ ATTCH-3.0(SCC)	35 of 48	14.0 terms of payment clause No 14.3.1 (II)	Please confirm the supply price break-up percentage in numerical 65 % whereas in alphabetical mentioned as seventy five percent.	Please refer Corrigendum
2.	Part –I Commercial PNMM/PC161/E/001/ ATTCH-1.0(ITB)	15 of 26	As per Tender, ITB: The bidder has to select the payment option as offline to pay the Tender FEE/ EMD as applicable and enter details of the instruments.	Please confirm the tender fee amount and mode of payment	There is no tender fee.
3.	PART-Commercial PNMM/PC161/E/001/ LTB	4 of 5	MASTER INDEX	Document is not available	Attached with LETTER INVITING BID
4.	Part-I commercial PNMM/PC161/E/001/ ATTCH-1.0(ITB)	9 of 26	Clause No : 12.1 Modification and with drawal of Bids	Please clarify whether bid can be withdraw/modify after submission of bid as mentioned here.	As per NIT
5.	Part-I Commercial PNMM/PC161/E/001/ ATTCH-2.0(GCC) Part-I Commercial PNMM/PC161/E/001/ ATTCH-2.0(GCC)	37 of 74 45 of 74	Clause No : 33.4 TIME EXTENSION OF CONTRACT ----- --cumulative period of suspension exceed 90 days during the scheduled duration----- ----- Clause No : 47.2 Suspension of work ----- -----more than a cumulative period of sixty(60) days and provided that such suspension is-----	Please confirm mentioned days is 90 OR 60	Amendment to be issued
6.	Part-I Commercial PNMM/PC161/E/001/ ATTCH-2.0(GCC)	68 of 74	Clause no : 59.1 STATUTORY APPROVALS Unless otherwise specified in Bidding Documents, it shall be the CONTRACTOR's sole responsibility to obtain all approvals from any authority (except for environment clearance) required under any statute, rule or regulation of the Central or State Government concerned With the performance of the CONTRACT and/or the	Please confirm which are statutory approvals required to pursue with Gov. authority. Otherwise we are considering only statutory approvals required from CIEG (central Industrial Electricity Gov.) to complete the site work.	As per NIT



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
			contractual Work. The application on behalf of the OWNER for submission to relevant authorities along with copies of required certificates complete in all respects shall be prepared and submitted by the CONTRACTOR well ahead of time so that the actual construction/COMMISSIONING of the WORKS is not Delayed for want of the APPROVAL/inspection by the concerned authorities. The CONTRACTOR shall arrange for the inspection of the WORKS by the authorities and will undertake necessary coordination		
7.	Part –II Technical PC 161-G-101-P1I/3.0	21 of 34	Clause no 2.0 Statutory clearances	The following statutory clearance are not applicable for this package and if required shall be taken care by HURL <ul style="list-style-type: none">- Factory Inspectorate/IBR- Director general of Mines and safety requirements- For state Pollution board approvals This is normally dealt by Client only as it will be given to owners (i.e.) like consent to establish (CTE) and consent to Operate (CTO). However we will provide the Technical Information / documents, if required.	As per NIT
1.	Part-1Commercial PNMM/PC161/E/001/ ATTCH-3.0(SCC)	45 of 48	Clause 20.2 A 2.0 & B 1.0 *0.175% of the Total Price of component of Water Pre-Treatment Plant as per Section B of SP for every complete week delay or part thereof, subject to a maximum of 1.75% of the Total Price component of DM Plant (DM).	Shall be replaced by *0.175% of the Total Price of component of DM Plant as per Section B of SP for every complete week delay or part thereof, subject to a maximum of 1.75% of the Total Price component of DM Plant (DM).	Amendment to be issued w.r.t . DM PLANT
2.	Part-I Commercial PNMM/PC161- /E/001/ATTCH-	6 of 13	Serial No:5.0 GST % Bidder to indicate applicable on sl. 4.0 above and also indicate the Total GST amount.	We understand that amount of GST shall be GST amount –ITC (Input Tax Credit), Please confirm.	As per NIT



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
	4.0(SP)				
3.	Part-II Technical PC161-G-101-P-II/3.0	16 of 34	1.1.6.1 General scope of Work and services – Construction/Erection clause no:1.28 Hazop study	Please confirm the requirement of external agency / Examiner for Hazop study by contractor.	Confirmed
4.	Part-II Technical PC161-G-101-P-II/3.0	27 of 34	Mechanical maintenance	Hydra, Fork lifts, Cranes etc will be in the supply of contractor scope, please specify the quantity to be supplied.	As per requirement of successful bidder
5.	Part-II Technical PC161-G-101-P-II/1.0	5 of 6	Clause no: 3.1.6 Interconnecting piping between O&U will be in the scope of Bidder.	Our understanding is interconnecting piping with isolation arrangement at battery limit of WTPT boundary only in our scope. From O&U services to battery limit of WPTP will be in the scope of client.	Please refer the P&ID no PC161-7112/7113-0023/24/25/26/27/28/29
6.	Part-II Technical PC161-G-101-P-II/1.0	5 of 6	Clause no : 3.1.7 chemical lab	Minimum laboratory requirement of to be clarified. The list of Equipment, reagent and standard to be followed shall be provided to meet the competitive bidding.	Apart from lab instruments provided in main laboratory ,bidder shall provide lab instruments for day to day operation of WPT/DM plants.
7.	Part-II Technical PC161-7112/7113-046	1 of 1	Process flow diagram	Please note the fire water tank & Nozzles only will be bidder scope and fire water pumps & inter connecting pipes shall be in the scope of client whereas the PFD drawing is vice versa (battery limit). Please presume that is typo graphical error. Kindly the confirm	fire water pumps & inter connecting pipes shall be in the scope of client which is already shown in the P&ID. Please refer the P&ID no PC161-7112/7113-0023
8.	Part-II Technical PC161-G-101-P-II/4.0	28 of 28	Clause no 7.0 Cooling water shall be provided at the ISBL battery limit by client. Further distribution of plant air to various distribution points shall be done by Contractor.	Please clarify the statement. We presume that cooling water supply pipe line will be terminated at the battery limit of WTPT. Cooling water pipe will be 18 inch underground piping with wrapping & coating and cathodic protection.	Please refer the P&ID no PC161-7112/7113-0023
9.	Part-II Technical PC161-G-101-P-II/2.0	3 of 6	Clause no 1.3 Process condensate quality (7)	Condensate from Urea plant indicates the 120 degree centigrade of design temperature, which will affect the resin maximum of 60 degree Celsius performance, kindly confirm the heat exchanger	process design temp for WTP and DM Plant shall be 40 deg C and CPU plant design temp shall be 50 Deg C in process condensate unit and 70 Deg C



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
				requirement prior to CPU.	for turbine condensate
10.	Part-II Technical PC161-G101-P-II/1.0	17 of 19	Section 5.5 Annexure :1 Clause No : 6.1.2 Contour levels	As per tender Existing Contour levels are not provided, which help us to serve better in terms of accuracy in Estimation. Please furnish the contour level drawings for proposed Plant.	Graded land shall be provided to bidder FGL=78.600M
11.	Part-II Technical PC161-G101-P-II/1.0	8 of 35	Section 5.5 Annexure :2 Clause No : 3.2.10 NGL & HFL	To know the High flood levels in the proposed plant from natural ground level to finalised the Finished ground levels of the plant.	Graded land shall be provided to bidder
12.	Part-II Technical PC161-G101-P-II/1.0	8 of 19	Section 5.5 Annexure :1 Clause No : 2.6 Boundary wall	We presume that boundary walls are not in our scope. If yes kindly provide the type of wall and their dimensions.	Not in vendor scope
13.	Part-II Technical PC161-G101-P-II/1.0	17 of 19	Section 5.5 Annexure :1 Clause No : 6.2 Roads	Please provide the type of road, width, Shoulder type, width of carriage way & shoulder width.	Not in vendor scope. But Paving inside battery limit shall be in bidder scope.
14.	Part-II Technical PC161-G101-P-II/1.0	11 of 19	Section 5.5 Annexure :1 Clause No : 3.2.5 Stability Check	Factor of safety against over-turning & Sliding shall be as per IS 456 Cl.20 page 33. Please confirm.	Shall be as per NIT
15.	Part-II Technical PC161-G101-P-II/1.0	3 of 19	Section 5.5 Annexure :1 Clause No : 1.1 Piling (Note : 2)	We understanding that Installation of pile is excluded from our scope, the same will be considered by client /owner. Also please clarify the Installation of pile meaning including all civil materials please confirm	Installation of pile including all civil materials is in owner scope. However stripping of pile, pilecap are in bidder scope.
16.	Part-II Technical PC161-G101-P-II/1.0	3 of 19	Section 5.5 Annexure: 1 Clause No: 1.1 (Note: 1) If piling is required layout of piles shall be in bidder's scope. Only 450mm dia	We request to consider various pile dia to suit the design requirements.	Only 450mm dia of pile should be considered.
17.	Part-II Technical PC161-G101-P-II/1.0	2 of 19	Section 5.5 Clause No: 4.0 Design criteria for reinforced concrete structures	Please furnish the following details - minimum thickness of pile cap - Footing / Raft - Base slab - Wall, Floor slab and - Roof slab	Shall be as per IS code.
18.	Part-II Technical PC161-G101-P-II/1.0	3 of 19	Section 5.5 Clause No: 4.3 Design criteria for reinforced concrete structures	Please furnish the minimum dia of reinforcement for varies structural element like	Shall be as per IS 456 and SP34.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
				-RC wall, Slab -Beam, Column etc. or otherwise We will follow as IS 456. Please confirm.	
19.	Part-II Technical PC161-G101-P-II/1.0	14 of 19	Section 5.5 Clause No: 5.0 Design criteria for steel structures	We request to conform whether Structural Steel shed Construction shall be either Pre Engineering Building or conventional. Please confirm.	Structural steel shed should be conventional type.
20.	Part-I Commercial PNMM/PC161/E/ 001/ANNX-1.25	1 of 1	NIT : Clause No : 1 Completion period of plant for WTPT & DM	For Supply, Erection and commissioning of complete WTPT & DM plant Including all streams in 24 months excludes the trial run for 30 days, please give your confirmation.	As per NIT
21.	Part-II Technical PC161-G-101-P-II- SEC-12	6 of 20	Clause No : 5.6 It shall be the responsibility of Construction contractor to provide suitable accommodation including necessary facilities for their labour and staff.	We agreed to provide the facilities, But Space of Keeping the containers to provide the accommodation to labours, we presume that at free cost space shall be provided by owner / client. Please confirm.	Land for labour colony shall be arranged by bidder. Land For temporary facility (store fabrication yard and area for offices) shall be provided as is where is basis
22.	General	-	O & M power cost	Please provide the clarity on O &M power cost, if applicable to bidder then what is prevailing rate of power cost in RS /kwh.	Approximate 10 Rs/ kwh
23.	BIDDING DOCUMENT No. : D-1-PC161-G001-P- II/Sec.-5.3 : PART II: TECHNICAL Section :1 Scope & 2.0 BASIS OF DESIGN	Page No: 7 of 80	Clause No.: 2.1-e-vii	We shall submit the certificates of type tests performed on identical equipment as evidence of the compliance of the equipment with the type tests	Noted
24.	BIDDING DOCUMENT No. : D-1-PC161-G001-P- II/Sec.-5.3 : PART II: TECHNICAL Section :1 Scope & 2.0 BASIS OF DESIGN	Page No: 9 of 80	5.0 POWER SUPPLY DISTRIBUTION - 5.0-a,	We understand that our scope starts from providing the 11 KV cable with Termination Kit from utility Substation & two nos. 415 V emergency power supply feeder and 2 nos. of 115 V AC UPS feeder from owner's switchboard/UPS DB in Utility Substation and Central Control Room (at Ammonia & Urea Plant) respectively . Any modification on the existing switchgear/MCC/UPS DB at the point of	There is no existing switchgear/MCC/UPS DB at the point of "source and also no modification is required in owners equipment by the bidder.However Cable sizes required for termination shall be communicated by bidder in event of order.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
				"source" shall not be in bidder scope. Kindly confirm	
25.	Tender specification: PC161-G001-P- II/Sec. 5.3 , section - 7.0 Protection & Metering	14 OF 80	Clause 7.2, 7.3, 7.5	Requirement of communication port in Numerical relay and their interface with remote communication system, are contradicting in the tender specification clauses: 7.2, 7.3, 7.5. Kindly clarify on the number of communication port required in Numerical relay and the Communication Protocol. Also confirm the BGRESL's scope of Interfacing numerical relays, MFM with Remote system.	Energy management is in owner's scope however numerical relays shall have communication on IEC-61850 protocol in redundant mode and multifunction meter shall have communication on MODBUS protocol.
26.	Tender specification: PC161-G001-P- II/Sec.5.3 , section - 7.0 Protection & Metering	15 OF 80	Clause 7.6	Trip circuit supervision shall be provided from the inbuilt function of numerical relay instead of discrete relay.	As per NIT
27.	Tender specification: PC161-G001-P- II/Sec.5.3 , section - 7.0 Protection & Metering	17 OF 80	Clause 7.8, point no.9	DC supply supervision relay (80) shall be provided in the Switchgear with provision for signal to DCS for remote annunciation at DCS, Local Annunciator is not envisaged.	DC supply supervision relay (80) shall be provided in the Switchgear with provision for annunciation locally at switchboard.
28.	Tender specification: PC161-G001-P- II/Sec.5.3 , section - 7.0 Protection & Metering	17 OF 80	Clause 7.8, point no.12	PT fuse failure protection shall be provided from the inbuilt function of numerical relay instead of discrete relay.	As per NIT
29.	BIDDING DOCUMENT No. : D-1-PC161-G001-P- II/Sec.-5.3 : PART II: TECHNICAL Section :1 Scope & 2.0 BASIS OF DESIGN	Page No: 20 of 80	9.2 Power Transformers Clause: 9.2.4	As per general Practice, 11 KV/0.433 KV or 3.3 KV/0.433 KV transformer rating shall be Max 2.5 KVA. Kindly Confirm	Please note that Cl. No. 9.2.4 is for 11/0.433 KV or 3.3KV/0.433 KV transformer only whereas Cl. No.9.2.6 is a general clause applicable for 11/3.3 KV transformer etc.



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Item No	Bid document Reference	Page No	Section or Clause Ref	Question/Query/Clarification/Comment	PDIL/HURL
30.	BIDDING DOCUMENT No. : D-1-PC161-G001-P-II/Sec.-5.3 PART II: TECHNICAL, Section :10.0 CABLING	Page No: 34 of 80	Section :10.0 CABLING (J)	Maximum LT Motors Voltage drop during starting condition shall be considered as 15% .Please Confirm your acceptance.	As per NIT
31.	BIDDING DOCUMENT No. : D-1-PC161-G001-P-II/Sec.-5.3, PART II: TECHNICAL Section :10.0 CABLING	Page No: 35 of 80	Clause no:10.0 CABLING (K-b)	Short circuit withstand time (seconds) shall be as follows for Breaker controlled feeders. (i)Feeders to motors and transformers 0.16 sec (ii) Main 11 KV primary distribution feeders 0.5 sec (iii)11 KV cable from generator & transformer to switch board 0.5 sec Please Confirm your acceptance.	As per NIT
32.	ES-8142 Battery	5 OF 7	Clause 7.0, 7.1	We shall submit the certificates of type tests performed on identical equipment as evidence of the compliance of the equipment with the type tests	Noted
33.	ES-8160 Cable	6 OF 8	Clause 8.1-iii	We shall submit the certificates of type tests performed on identical equipment as evidence of the compliance of the equipment with the type tests	Noted
34.	PART – II : TECHNICAL VENDOR LIST WATER PRE-TREATMENT, DM & CONDENSATE TREATMENT PLANT PC161-G-101-P-II/ 11 00	14 of 52	Electrical Vender List	Other reputed Electrical Equipment/Cable/Battery/switchgear manufacture also considered after getting approval from client. Please confirm.	As per NIT
35.	Part-II Technical PC/161-G-101-P-II/2.0	6 of 6	Clause No 2.3 Polished water quality from CPU	We presume that temperature of Treated water quality from the CPU units shall be maintained as 25 Celsius. There is no requirement of increase in temperature of Polished water from CPU. Please confirm	As per NIT



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Sr. No.	Volume	Clause No.	Page No.	Subject	Bidder's Query	PDIL/HURL Reply
1.	Part –II Technical	1.1	Sheet 2 of 6	Raw water Quality	Total alkalinity is given 190 mg/l. We understand that it is “as calcium carbonate”.	Confirmed
2.	Part –II Technical	1.1	Sheet 2 of 6	Raw water Quality	In water analysis mention is made for variation from time to time. It shall be within the parameters given in the analysis. Kindly confirm.	The DM plant shall be designed based on design raw water analysis given in NIT however DM PLANT capacity output shall be assessed based on actual input water quality available at the time of performance test.
3.	Part –II Technical	1.2	Sheet 3 of 6	Turbine Condensate Quality	In Turbine condensate analysis conductivity of 20 ms/cm given which is considered due to sodium ammonium and chloride. Kindly confirm.	Conductivity in the turbine condensate shall be due to boiler feed water dosing chemicals.
4.	Part –II Technical	1.3	Sheet 3 of 6	Process Condensate Quality	In process condensate no silica and iron is given hence not considered.	confirmed
5.	Part –II Technical	2.2	Sheet 5 of 6	Polished water Quality From DM Plant	Please confirm whether silica in DM water is to be considered as less than 0.01 or 0.02 ppm.	silica in DM water shall be considered as less than 0.01 PPM
6.	Part –II Technical	2.3	Sheet 5 of 6	Polished water Quality From CPU	Polished water quality from CPU; silica is mentioned as 0.01 ppb which may be 0.01 ppm. Kindly confirm.	confirmed
7.	Part –II Technical	2.0	Sheet 4 of 6	Treated water Quality	Treated water quality after Pre Treatment is asking SDI<3 which is impossible to guarantee after DMF. Kindly check.	SDI not to be considered
8.	Part –II Technical	2.0	Sheet 4 of 6	Treated water Quality	Treated water quality Turbidity after Pre Treatment is <1 NTU while in drinking water quality Turbidity is 2 NTU. We understand that Turbidity after Pretreatment shall also 2 NTU only. Kindly Confirm.	Treated water quality Turbidity after Pre Treatment is <2 NTU
9.	Part –II Technical	1.1.1 & PFD	Sheet 3 of 34	Water Pre Treatment – Qty of DMF	There is a discrepancy in Qty of DMF in clause 1.1.1 & PFD. Kindly confirm the whether it is (7W+1S) or (6W+2SB).	(7W+1S)



WTP ,DM & CPU PLANT; HURL GORAKHPUR
PRE BID QUERIES- LOT-1
NIT NO.: PNMM/PC161/E/001



Sr. No.	Volume	Clause No.	Page No.	Subject	Bidder's Query	PDIL/HURL Reply
10.	Part –II Technical	11	Sheet 7 of 28	Water Pre Treatment – DMF	As per the clause DMF shall be vertical for flow of 200 m ³ /hour with velocity of 15 m/hr. Hence the diameter shall be 4.1 m and its transportation may be problem. Kindly check.	As per NIT
11.	Part –II Technical	1.0	Sheet 7 of 28	Turbine condensate Quantity	Kindly confirm the quantity of turbine condensate whether it is (1W+1S) or (2W+1S) of 320 m ³ /hour.	turbine condensate shall be (1W+1S) of capacity 320 m ³ /hour
12.	Part –II Technical	1.1.1	Sheet 6 of 34	Turbine Condensate Polishing Plant	Prior to Activated carbon filter there is no need to Cartridge filter. Can we eliminate cartridge filter from the scheme.	As per NIT
13.	Part –II Technical	1.1.1	Sheet 21 of 34	Turbine Condensate Polishing Plant	Kindly confirm the capacity of activated Carbon filter capacity for Turbine condensate unit.	Activated Carbon Filters shall be Three
14.	Part –II Technical	1.1.1 & PID	Sheet 4 of 34	Fire water storage Tank Capacity	There is a discrepancy in Fire water storage tank capacity. At page 4 of 34 it is mention as 2X 4100 cum while in PID it is mention 5000 cum. Kindly clarify.	Fire water storage tank capacity shall be 2X 4100 cum
15.	Part –II Technical	2	Sheet 12 of 28	UF Capacity	We understand that UF system shall be after MB unit. As MB capacity is 120 cum/hr (2W+1SB) , hence feed to UF system shall be 120 cum/hr while in UF sheet ; tender is asking for 180 cum/hr of feed flow rate for UF. Kindly confirm the UF Feed flow rate.	UF Skid shall be 2W+1S and each stream permeate flow shall be 120 m ³ /hr.
16.	Part –II Technical	2	Sheet 12 of 28	Molecular Weight Cut Off Value	As per UF specs MWCO is given 100000 MWCO Daltons, it should be 10 KD. Kindly confirm.	Confirmed
17.	Part –II Technical		PFD	Vendor scope	As per the battery limit, Fire water Tank & filter water tank shall be in client scope while at page no 9 of 28 it is in vendor scope. Kindly confirm the scope.	Fire water Tank & filter water tank shall be in bidder scope