

Corrigendum No. 002

NIT NO. AA:GAX:20:NBP:003 dated 06.06.2020


Date: 27.06.2020

Amendments are made to the subject NIT as per the following:


BHEL's reply to the queries / requests raised by the prospective bidders is tabulated below.

SN	Clause no. / Page no.	Tender Description	Queries / Clarifications sought	BHEL's Reply
1	-	-	Hydranautics & QUA may be added in approved list of make of MBR membranes.	Hydranautics & QUA make of MBR membranes are also acceptable.
2	-	-	Rotary Drum fine screen may be added to mechanical fine screen. Make CCP - Pune Link www.ccp-india.com	Tender specifications shall remain unaltered.
3	-	-	Reg SUBMERSIBLE MIXER for Anoxic tank, pls specify make as it is a costly item. Alternatively, pls allow use of slow speed mechanical agitator, fitted on top of Anoxic tank.	Tender specifications shall remain unaltered. Submersible Mixer make shall be of reputed make and make shall have to be got approved by BHEL during drawing approval stage.
4	-	-	Provision is required for overhead lifting arrangement, above the MBR tank, for lowering & removal of submerged MBR modules. This is part of civil work.	Lifting arrangement to be provided by the successful bidder (supplier / contractor).

Mh

SN	Clause no. / Page no.	Tender Description	Queries / Clarifications sought	BHEL's Reply
5	Volume -IV, TECHNICAL CONDITIONS OF CONTRACT (TCC) PAGE NO-44 of 102	Clause No -3 BASIC DATA ON INFLUENT RAW WASTE WATER (SEWAGE), Table 1. 1. Total Kjeldahl Nitrogen as N, 2. NH4-N, 3. Dissolved Phosphorous as P, 4. Nitrate Nitrogen as N	Following Parameters are not provided in the INFLUENT Feed, but at the outlet these parameters have been mentioned: Total Kjeldahl Nitrogen as N NH4-N, Dissolved Phosphorous as P, Nitrate Nitrogen as N Please provide the above parameter.	Inlet parameters mentioned in the tender shall remain unaltered.
6	Volume -IV, TECHNICAL CONDITIONS OF CONTRACT (TCC) PAGE NO-54 of 102	Clause -14 BHEL SCOPE (Civil Work) Raw sewage Collection cum Equalization tank. (Capacity: 1 chamber of 95 KL effective volume)	Required Capacity of Equalization tank should be 107 KLD because the inflow time is 8 hr. (160KLD – 53KLD=107 KLD) 53 KLD is 8 Hr treated water. So Please consider 107 KLD tank Capacity .	The capacity of equalization tank shall remain unaltered.
7	Volume -IV, TECHNICAL CONDITIONS OF CONTRACT (TCC) PAGE NO-54 of 102	Clause No: 14 BHEL SCOPE (Civil Work) Aeration tank (Capacity: 1 chamber of 55 KL effective volume)	Aeration tank Capacity Suitable for 280 PPM BOD. For 400 PPM BOD required tank capacity should be 80 KLD. Please consider 80 KLD capacity for aeration tank.	The capacity of aeration tank shall remain unaltered.
8	Volume -IV, TECHNICAL CONDITIONS OF CONTRACT (TCC) PAGE NO-54 of 102	Clause No:14. BHEL SCOPE (CIVIL Work) Sludge thickener cum digester (Sludge Holding tank) (Capacity: 1 chamber of 20 KL effective	Please Confirm both Sludge Thickener Cum digester and Filter Press is also required	Both Sludge Holding Tank & Filter Press are required.
9	Volume -IV, TECHNICAL CONDITIONS OF CONTRACT (TCC) PAGE NO-54 of 102	Clause No-15. SUPPLIER / CONTRACTOR SCOPE Average Flux (Rate) (m3/m2/Hr): 30	We presume 20-21 M3/m2/Hr because with 30 LMH plant performance is not achieved. Please confirm. We feel that the flux rate should be 20 – 21 m3/m2/hr and the same should be fixed for all the bidders. Kindly confirm.	To be considered as per Membrane manufacturer standard. 

SN	Clause no. / Page no.	Tender Description	Queries / Clarifications sought	BHEL's Reply
10	Volume-IV, Technical Conditions of Contract (TCC) Page No. 51 of 102	<p>Clause No.: 13 (Details of Electrical Works). GENERAL SPECIFICATION OF EQUIPMENT-</p> <p>g) The switchboard shall be metal clad, totally enclosed, rigid, compartmentalized design, floor mounting, air insulated, extensible cubicle type for use on medium voltage power, 3 phases 4 wire 50 cycles system.</p>	g) The Switchboard should be suitable for 415V AC, 3 Phase-4 Wire, 50 Hz Cycles System. Kindly Confirm.	Yes, the Switchboard should be suitable for 415V AC, 3 Phase-4 Wire, 50 Hz Cycles System.
11	Volume-IV, Technical Conditions of Contract (TCC) Page No. 52 of 102	<p>III. CONSTRUCTION (3.1: The switchboard shall be)-</p> <p>d) Each feeder / instrument compartment shall be provided with a hinged door interlocked with MCCB/SFU inside the compartment such that door can only be opened when MCCB/SFU in off position.</p>	d) All Power Feeders shall be provided with MCCB and all Outgoing Motor Feeders shall be with SFU inside the Panel Compartment. Kindly confirm.	Yes, all Power Feeders shall be provided with MCCB and all Outgoing Motor Feeders shall be with SFU inside the Panel Compartment.
12	Volume-IV Technical Conditions of Contract (TCC) Page No.:59 of 102	<p>Clause No.: 15 (Supplier / Contractor Scope)</p> <p>T) Construction: Non-Compartmentalized Type Skid Mounted, MCC Cum PLC Control panel will be free standing; vertical, fabricated from CRCA steel sheet 14/16 G conforming to degree of protection IP-52 or better. Cable entry will be from bottom.</p>	We understand that MCC Panel & PLC Panel are separated from each other. Kindly Confirm	<p>PLC shall be part of the STP Electrical Panel (MCC Panel).</p> <p style="text-align: right;"><i>Mohit</i></p>

SN	Clause no. / Page no.	Tender Description	Queries / Clarifications sought	BHEL's Reply
13	Volume-VIII Clause No.: 15 (List of Approved Makes) Page No. 99 of 102	Electrical Control Panel (MCC): Advance / Adlec / Ambit / Tricolite / Milestone / Vidyut control / RST / Dynamic.	Electrical Control Panel (MCC): CPRI approved make Vendor Fabrication using with approved make Switchgears. Kindly confirm.	Electrical Control Panel / STP Electrical Panel (MCC) shall be of the Makes mentioned in the tender.
14	-	-	Parameter- Total Nitrogen at inlet is not provided- (45 mg/l can be considered as per our design)	Inlet parameters mentioned in the tender shall remain unaltered.
15	-	-	Raw Sewage Transfer Pump- Make: Kirloskar can be provided	Raw Sewage Transfer Pump shall be as per the makes mentioned in the tender.
16	-	-	Type of Blower – Tri Lobe in the place of twin lobe type. –As tri lobe are more efficient	Tri Lobe / Twin Lobe may be provided.
17	-	-	For Membrane Scouring air blower- VFD is not required.	Tender specifications shall remain unaltered.
18	-	-	Auto Screen shall be 2mm punched hole Half Drum type with stand by manual 2mm fine screen.	Tender specifications shall remain unaltered.
19	-	-	Coarse Bubble Aeration- Fixed type air grid can be provided for homogenization purpose in EQT and Sludge Holding Tank. (Make: Thermax)	Ok, but kindly ensure that Air dispersion grid shall be assembled in modular form so that they can be replaced/ repaired easily from platform at the top.
20	 -	-	Fine pore diffusers- Make Scogen/Jagger.	Scogen / Jagger make may be supplied.

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21	-	-	Submersible Mixer- MS EP agitator can be provided in the place of Submersible mixer as the anoxic tank size is small and agitators are easy to maintain (Make: Thermax)	Tender specifications shall remain unaltered.
22	-	-	Permeate transfer pump and Sludge Recirculation Pumps- CI pumps can be provided of Kirloskar Make, as these are Horizontal Centrifugal Pumps	Approved makes mentioned in the Tender shall remain unaltered.
23	-	-	Sludge Handling System- Batch Type centrifuge can be provided of Airtech Make. For centrifuge Feed application, Horizontal centrifugal pump can be provided in the place of Screw pump. As the motor KW of centrifuge feed pump shall be lesser than screw type filter press feed pump. As the operation is simple.	Tender specifications shall remain unaltered.
24	-	-	Pressure Rating of Valves – PN 10 can be provided	Tender specifications shall remain unaltered.
25	-	-	Plant Piping- UPVC Sch. 40 can be sufficient to match the requirement.	Tender specifications shall remain unaltered.

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26	-	-	Pressure Indicator- Generally for pumps we will provide pressure gauges, provision/importance of pressure indicator be enquired. Differential pressure transmitter shall be provided only for Membrane system.- Pressure Gauge Make: Micro	Ok, however makes for pressure indicator / gauge shall remain unaltered.
27	-	-	Panel Make – Thermax appd. Vendor/ CPRI approved Thermax Vendor	Approved makes mentioned in the Tender shall remain unaltered.
28	-	-	For Irrigation and Treated water pumps- our scope will be end at 1 m from pump discharge.	OK.
29	-	-	Submission of the Tender as by Manufacturer's channel partner, using Manufacturer's credentials.	Bidder has to meet the Pre- Qualifying requirement mentioned in the tender.
30	-	-	Make of PLC is not given in the tender document.	Reputed makes of PLC to be provided.
31	-	-	Make of screw screen to be added that is auric.	Approved makes mentioned in the Tender shall remain unaltered.

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32	-	-	Specification of MBR to be added in flat sheet as well as hollow fibre.	Tender specifications shall remain unaltered.
33	-	-	Make of MBR to be add as Qua (Indian Make)	QUA make of MBR membranes may be provided.
34	-	-	Flux range of MBR should not be beyond 25LMH for better design	To be considered as per the Membrane manufacturer design.
35	-	-	Filtre press need to be changed in Centrifuge and very advanced technology i.e. Volute machine	Tender specifications shall remain unaltered.
36	-	-	Volute machine make to be Micro Transmission	Refer reply at point no. 35 above.
37	-	-	Maxifiltra odour removal system to be added to avoid any odour in Basement.	The STP shall be installed below ground and mumty to be provided at Ground Level for STP entry. Also please note that the entire system will have ventilation, hence no separate odour removal system is required.
38	-	-	Panel make to be incorporated as CPRI approved vendor.	Approved makes mentioned in the Tender shall remain unaltered.
39	-	-	Please confirm the operating hours of MBR membranes, as it is mentioned 8 hours intake flow hours, whether plant shall run on 24 hours or 8 hours (One shift)	Since it is an office building, the sewage inflow will be for 8 hrs., however, the STP will run on 24 hrs. basis.

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40	-	-	<p>Kindly note that following items is included in Contractor / suppliers scope which suppose to be scope of Civil Contractor or HVAC.</p> <p>Refer page no. 56</p> <p>Supplier/ Contractor shall provide ventilation system in the plant room/ tanks including exhaust fans, ducts, etc. Please clarify.</p>	<p>The successful bidder (supplier / contractor) shall provide ventilation system in the plant room/ tanks including exhaust fans, ducts, etc.</p>
41	<p>Notice Inviting Tender (NIT), Page no. 46, Point no. 5, STATUTORY APPROVALS</p>	<p>On placement of order, supplier / contractor shall submit and obtain approval and permission of State Board for Control of Pollution and any other statutory authority whose approval may be required for the installation and commissioning of the sewage treatment plant for the proposed process and disposal arrangement.</p>	<p>We understand that Consent of Establishment will be arranged by the BHEL department and Consent of Operation will have to arrange by the contractor. Please confirm.</p>	<p>After installation of STP, any approval from State Board for Control of Pollution and any other concerned authority is in the scope of successful bidder (supplier / contractor).</p>

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42	Notice Inviting Tender (NIT), Page no. 46, Point no. 6., SCOPE OF WORK	g) The entire STP is proposed to be constructed below ground level.	Please confirm the clear spacing below the ground level, as the height of tanks will be about 3.0 to 3.5 m, and the length of membranes may vary between 2.0 to 3.0m, so approx clear space will be around 6.5 m to 7.0 m required.	Clear space for STP is provided as per the total height required for MBR System. Kindly refer STP Layout & Section drawing which is provided with Tender Document.
43	Notice Inviting Tender (NIT), Page no. 48, Point no. 9., TESTS (SAMPLING & ANALYSIS OF TREATED WATER)	pH, TSS & COD parameters should be checked & logged by supplier / contractor on daily basis during trial run.	Please confirm, the equipments used for testing pH, TSS & COD parameters during the trial run will be provided by the BHEL department or will be arranged by the contractor. Moreover, if contractor will arrange the testing equipments then, after trial run, the contractor can bring these testing equipments back or have to leave on the site.	Providing all the testing equipments during trial run shall be in the scope of successful bidder (Supplier / contractor). After trial run, the successful bidder (supplier / contractor) can take back the testing equipments.
44	Notice Inviting Tender (NIT), Page no. 54, Point no. 14., BHEL Scope	The capacity of different tanks is already provided.	Please confirm the contractor have to follow the specified tank sizes or contractor can purpose the sizes of tanks as per detail engineering and process requirements. As for the output parameters contractor will be responsible, so it should be as per contractor.	The successful bidder (supplier / contractor) has to follow the specified tank sizes mentioned in the Tender Document & Drawing.

SN	Clause no. / Page no.	Tender Description	Queries / Clarifications sought	BHEL's Reply
45	Notice Inviting Tender (NIT), Page no. 101, Schematic Flow Diagram	Capacity and size of each electro mechanical equipment is specified in the drawing.	Please confirm the contractor have to follow the specified technical specifications or contractor can purpose the capacity and specs as per detail engineering and process requirements. As for the output parameters contractor will be responsible, so it should be as per contractor.	The successful bidder (supplier / contractor) can propose the Capacity and size of electro mechanical equipment as per detailed engineering and process requirements, keeping in view, the output parameters are achieved. However, the design shall have to be got approved by BHEL.
46	Notice Inviting Tender (NIT), Page no. 98, LIST OF APPROVED MAKES	Mechanical Step Screen : Jash / Wastech / Ecologix Mechanical Fine Screen : Jash / Wastech / Ecologix	As the completion period of the project is 05 months, for such a big manufactures it is not feasible to deliver/provide these small screens on time. We hereby like to mention that it should be as per contactor recommendation and approved by BHEL on the basis of screen manufacturer's credentials.	Approved makes mentioned in the Tender shall remain unaltered.
47	Notice Inviting Tender (NIT), Page no. 99, LIST OF APPROVED MAKES	Electrical Control Panel : Advance / Adlec / Ambit / Tricolite / Milestone / Vidyut control / RST / Dynamic	The Electrical Control Panel should be from a CPRI approved vendor. Please amend.	Approved makes mentioned in the Tender shall remain unaltered.
48	Notice Inviting Tender (NIT)	Puddle Flange, Insert scope is not specified.	Please specify who will provide puddle and inserts. Civil Contractor, BHEL or bidder.	BHEL shall provide Puddle Flange.

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49	Notice Inviting Tender (NIT), Page no. 56	Supplier / contractor shall provide Ventilation system in the plant room / tanks including exhaust fans, ducts etc.	In the tender document, the technical specifications for ventilation system is not provided. Please provide, or confirm that the bidder can design ventilation system as per requirements.	The successful bidder (supplier / contractor) shall provide the Ventilation system after designing as per requirement.
50	-	-	Annexure 'A' Pre Qualification Requirements (PQR): It is requested to allow Channel Partner/Dealer of technology provider/membrane manufacturer to participate in the tender based on the reputation / credentials of the technology provider /membrane manufacturer. The Guarantee for process will be provided by the technology provider. It is further submitted that Membrane based sewage treatment plant is new in the country and many companies have expertise & technology for membrane based sewage treatment plant but don't have requisite experience. It is also requested that experience of similar work by the bidder may please be deleted to give opportunity to companies promoting Make in India concept.	Bidder has to meet the Pre- Qualifying requirement mentioned in the tender. Pre-Qualification requirements shall remain unaltered. <i>Mohit</i>

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51	-	-	List of Approved Makes Mechanical Equipment Membrane Module / MBR Reactor Module: It is requested to include Membrane of ION EXCHNAGE (India) Limited – INDION make which also fulfills the MAKE IN INDIA policy of GOI.	ION EXCHANGE make of MBR membranes is acceptable.

